N E W S L E T T E R
of the
DIVISION OF IRRIGATION AGRICULTURE

Bureau of Plant Industry, United States Department of Agriculture
(Not for publication without prior consent of the Division)

Vol. 42 Washington, D. C. Jan. 27, 1940 No. 1

U. S. Huntley Field Station, Huntley, Montana

A snow of about 4 inches, which amounted to .34 inch precipitation, fell during the first two weeks in January. There were several days of sub-zero temperature with a minimum of -13°. Heavier snowfall was reported in the higher areas of the Yellowstone watershed, although the amount in the mountains is below normal.

The second Annual Feeders' tour of Yellowstone County was held on Jan. 11. About 190 farmers, feeders, and others interested took part in the tour in which farm feed lots in the area between Billings and Ballantine were inspected, and feeding experiences and results were discussed. The tour included a stop at the Huntley station where the 5 lots of lambs that have been on feed since Nov. 3 were inspected and the experiment explained by Dr. R. T. Clark, Head of the Animal Husbandry Department of the Montana Experiment Station. The lamb feeding experiment was not closed until Jan. 17 when the lambs were shipped to the Chicago market where slaughter data will be obtained on the various lots.

Station visitors included Director Clyde McKee, Dr. R. T. Clark, and Mr. Henry Murray of the Montana Experiment Station.

Dan Hansen

Irrigation Branch Station, Prosser, Washington

The weather has been foggy for most of the first two weeks in January. The lowest temperature was 20° and the maximum, 39°. The weather was not severe enough to prevent the WPA crew from taking soil samples on the rotation plots.

Station activities included shelling hybrid seed corn, and digging a drain ditch on the east side of Field D-6.

The prices paid to farmers for farm products are as follows: Choice light steers, $8; good choice hogs, $5.75; wool lambs, $7.50; Alfalfa hay in stack $8 per ton; and butterfat, .32 pound.

The CCC's have begun work on the Prosser siphon, a part of the Prosser Irrigation District's equipment. They will replace 320 feet of wood stave pipe with reinforced concrete.

Carl A. Larson

U. S. Newlands Field Station, Fallon, Nevada

January 1 - 22

Since the first of the year, more precipitation has fallen than has occurred in any month of the year during the last 34 years. This has been accompanied by snowfall in the mountains. Some 5 feet has been registered as falling in that area.

The 300 lambs that were on feed have been sold. A summary of the feeding results this year are as follows:

1. Lambs fed on rye and alfalfa hay finished more top grade lambs than any other of the feeding groups.

2. The most economical gains occurred in the 1-1/4 lb. of barley plus alfalfa hay ration.

3. Increasing the amount of corn silage accompanied by decreasing amounts of barley resulted in smaller and more costly gains.

4. The heaviest fed ensilage group finished the poorest lot of lambs.

5. The chopped hay group did not produce as economical gains as the whole hay group. During the first 6 weeks of the experiment, the chopped hay lot did better than the whole hay fed lot, but at the end of the experiment the reverse was the case.

The continued cold weather has frozen the ground to a depth of 7 or 8 inches. As a result, little field work can be done. The station employees have been engaged in overhauling machinery, chopping hay, and cleaning corrals. The WPA crew has completed an addition to the granary and has removed several large stumps on the Y ditch bank. The canal lining project conducted by CCC enrollees on the LC canal is at a standstill, due to the frozen condition of the canal banks. The work will be resumed when weather conditions moderate.

E. W. Knight

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

Precipitation during the period Jan. 1-15 amounted to .37 inch which fell in the form of snow. Not being accompanied by heavy winds, the snow was laid down uniformly over the entire valley and surrounding territory, and promises to be of considerable value for fall-planted grass and alfalfa crops, as well as for tree and bush fruits and tender garden or ornamental plants. In addition to providing protection against winter killing for these plants, the snow has temporarily prevented serious wind erosion. Temperatures have not been unusually low; the lowest recorded being -12°. Considerable cloudy weather has been experienced, the sky being cloudy or partly cloudy during all but 3 of the 15 days.

Although snow has fallen recently in the watershed of the Pathfinder Dam, in northern Colorado and eastern Wyoming the fall to date is considerably below normal and prospects for irrigation water at this time are somewhat gloomy. According to irrigation officials, snow will have to be much above normal to insure adequate supplies of irrigation water next summer, because of the fact that all of the reservoirs were drained during the 1939 season. Recent reports show that these reservoirs have a total of 125,000 acre feet of water compared with 468,000 acre feet a year ago. Ten inches of snow has been recorded in Wyoming, compared with 50 inches last year. In Colorado, snowfall has been 75% of last year and 65% of normal.

Station activities included sorting potatoes, in addition to the routine work of caring for the livestock.

Lionel Harris

Umatilla Field Station, Hermiston, Oregon

The temperature during December was above normal. Precipitation in the form of rain totalled 1.26 inches as compared with the 1.07 inches average. Since Oct. 1 the precipitation has been 57% of normal. Practically no snow has accumulated in the mountains. The feed canal supplying Cold Springs Reservoir was not started until the last few days of the month, which is a month later than usual.

Field work consisted of digging Jerusalem artichokes for the dairy herd, spreading manure, and repairing irrigation systems. The pasture plats in Field F-1 were harrowed and reseeded to increase the stands.

The demand for alfalfa hay has been better than usual with the price in the stack at $8 to $8.50 per ton, due to dry ranges and a short crop in the Willamette Valley.

Umatilla Field Station, Hermiston, Oregon, continued

At the close of December, The Eastern Oregon Turkey Growers Association had killed approximately 50,000 birds; a 25% increase over last season. Independent killers handled between 10 and 15,000 additional. The price has been so low that the growers have found it an unprofitable year; however, a number of larger growers are increasing the number of hens carried over for breeding stock.

H. K. Dean

U. S. Yuma Field Station, Bard, California

Near normal temperatures have prevailed during the first half of January. The maximum temperature was 77° and the minimum, 35°. Although rains occurred for nearly a fortnight in Southern California, only .03 inch was recorded at the station.

Crops on the project moving to market include lettuce, carrots, cotton, grapefruit, alfalfa hay and seed. Lettuce prices have improved, but other crops are selling at prices which have prevailed during most of the season. In the case of grapefruit and alfalfa seed, the prices have been lower than normal.

The staff of field workers engaged in the Ethiopean Alfalfa Weevil investigations at Yuma has been increased to begin field scouting. The egg-laying period of the weevil has begun.

The harvesting of the cotton crop is practically completed with the 3,838 acres on the project averaging three-quarters of a bale to the acre. All of the station cotton has been picked with the exception of the Acala strain test, but about 5 bales remain to be ginned. The yields of seed cotton per acre from the rotations and variety tests for 1939 are, as follows:

Rotations: Shafter Acala; maximum, 3,376; minimum, 960; mean (36 plats) 2,109; the 17-year mean, 1,524.

Variety test:

Acala Shafter---	3,007
Acala, Q-6------	2,691
Stoneville #5---	3,165
Stoneville P.---	3,156
D & P.L.#11-a---	3,213
Missdel #4------	3,261.

Other station work included the plowing and leveling of plats for cotton, picking and ginning cotton, pruning date palms, repairing and painting bunk house and mess house, building fences, cleaning ditches, and general irrigating, and hoeing.

E. G. Noble

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Vol. 42 February 13, 1940 No. 2

U. S. Belle Fourche Field Station, Newell, S. Dak.

Numerous light snows fell during the month, but they were not sufficiently heavy to be of particular value. The total precipitation for the month was .39 inch as compared to a .44 inch normal. The mean temperature for the month was 11° as compared with 17° normal. The maximum temperature was 50° on the 29th and the minimum, -20° on the 24th. Extremely high winds occurred from January 16 to 25. The maximum highest daily average occurred on the 18th when the average velocity was 24.3 miles per hour.

The feeder lambs were weighed on January 2 and 29, and the average daily gain ranged from .27 to .43 pound. Lamb Feeders' Day will be held on February 7.

The prospect for Irrigation water for the coming crop season is very discouraging. At the present time there are only 11,000 acre feet stored as compared with 44,000 acre feet a year ago.

Alfalfa hay in the stack sells for $9 to $10 per ton; corn shipped in, $1.15 per cwt.; and barley, $1.05 per cwt.

Station visitors included Mr. A. M. Eberle, South Dakota State College, Brookings; Mr. Frank Cundill, South Dakota State College Board of Regents; and Mr. O. W. Bokken, Armour & Company, Huron, South Dakota.

Beyer Aune

Irrigation Branch Station, Prosser, Washington

The precipitation for January amounted to 1.20 inches, which is .32 inch above normal. The temperature dropped to 10° on January 25. Snow has covered the ground since January 19 and at the end of the month the depth was 4 inches. There are 40 inches of snow in Snoqualmie Pass of the Cascade Mountains. The reservoir system of the reclamation service contains 660,000 acre feet indicating an ample supply of irrigation water for the coming season.

The Mercer Bros. Sheep Company brought 3,500 ewes to the station on January 20 for the lambing season.

Irrigation Branch Station, Prosser, Washington, continued

The WPA soil sampling crew has been sifting soil samples since snow covered the plots. There are 19 rotation plots remaining to be sampled out of the 110 in the rotation series.

A conference for Branch Experiment Station staffs was held at Pullman during the week beginning January 29. One of the questions discussed was the soil survey and kind of crops for the proposed Columbia Basin Project.

Mr. M. R. Lewis, Irrigation Engineer, Soil Conservation Service, was a station visitor.

Carl A. Larson

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

Precipitation during the last half of January amounted to .15 inch. The total for the month was .52 inch as compared with a 30-year mean for January of .17 inch. A cold spell occurred during the last half of the month when there were miminum temperatures ranging from a -3° to a -18° for nine consecutive days.

The Great Western Sugar Company has recently selected the ten outstanding producers of sugar beets in each factory district in the North Platte Valley. The yields obtained by the outstanding growers range from 17 to 19 tons per acre, while the average for the district was approximately 12.3 tons per acre. It was determined that the outstanding growers of sugar beets in 1939 planted their beets early, gave special care to the preparation of the seed bed, irrigated for germination, and were especially careful in thinning and otherwise caring for the crop during the summer. These ten growers planted their beets between April 12 and 22, and all except one irrigated their beets up. As a rule, beet growers are reluctant to irrigate their beets up in view of the fact that in many years rainfall has been sufficient and has occurred at the proper time to germinate and establish stands of sugar beets. However, in 1939 the rain failed to occur at the proper time, and the growers who irrigated for germination produced the highest yield of sugar beets in most instances.

Station activities included sorting potatoes and filling silos. The silos have been filled with a mixture of corn, Leoti Red sorghum, and cull potatoes.

The yields of potatoes from the irrigated rotation experiments for 1939 have been tabulated. During 1939 three strains of the Triumph potato were grown on each plot, and the mean yields for the three strains are as follows:

U. S. Scotts Bluff Field Station, Mitchell, Nebraska, con't

Triumph potatoes, Strain	4	201.4
" " "	12	225.3
" " "	22	283.6

Mean yield for all rotations---------- 236.3

The lowest yield of 67.7 bushels per acre was harvested from the continuously cropped plot rotation 4. The highest yield of 396.2 bushels per acre was harvested from rotation 71.

Lionel Harris

U. S. Umatilla Field Station, Hermiston, Oregon

With one exception January 1940 had the highest precipitation of any January on record---the total being 2.21 inches---most of which fell in the form of snow. The precipitation since October 1 has been 3.46 inches as compared with 4 inches average. The mean temperature was practically normal with a minimum of 11°.

During the lactation year recently closed, the cows of the dairy herd were divided into 4 groups as in the following table. The cows were given all the hay they would eat, concentrates at the average rate of 5.1 pounds per day, and succulents at the rate of 3 pounds of T.D.N. per day. The succulents were squash, beets, and Jerusalem artichokes. In addition to these feeds, all groups were on sweet clover pasture for 150 days.

Production and Margin with Various Feeding Systems

Feed	Aver. butterfat per cow adjusted to maturity	Margin over feed cost per cow
Alfalfa hay only	276 lbs.	$47.87
Alfalfa hay and concentrates	337 "	67.13
Alfalfa hay and succulents	354 "	57.72
Alfalfa hay, concentrates, and succulents	378 "	57.33

The margin over feed cost was calculated with hay at $8, concentrate at $25, and succulents at $3 per ton. Pasture was charged at $7.50 per head per season and butterfat credited at 30¢ per pound.

Field work consisted of building irrigation structures, cleaning corrals, and digging artichokes. The office work aside from routine was devoted to the preparation of manuscripts.

H. K. Dean

U. S. Newlands Field Station, Fallon, Nevada

Continued storms during the past two weeks have removed most of the dangers of a water shortage for the coming season. The daily temperatures have risen to the extent that the ground is frost free, thus allowing the continuation of field work. A small area east of the machinery shed is being leveled for planting this spring. It is planned to either seed to alfalfa or reserve this area for trial plantings of some of the crops not generally grown on this project. These plantings would be such crops as grain sorghums, soybeans, field peas, and rape.

The WPA project is about complete. At the present time plans are being made to obtain some further relief help in repairing some of the station buildings. This has progressed to a stage of preliminary surveys and will be submitted as soon as the State office has completed its drawings and estimates of materials and costs.

Station visitors have been Miss Mabel Connors, statistician with the State station, Mr. F. B. Headley of the State station staff, and Director S. B. Doten.

E. W. Knight

U. S. Yuma Field Station, Bard, California

Temperatures approximately 5° warmer than normal and about 4° above those for the same period in 1939 have prevailed during the past month. Frost occurred but twice during the month.

Cotton ginning on the project has been completed with 3,760 bales being reported for the season from 3,638 acres. The general feeling among cotton growers and ginners is that the 1940 acreage will be increased.

Following reports of crop damage in Texas and Florida, lettuce, carrots, cabbage, tomatoes, and grapefruit prices have advanced locally.

Station work included the final picking and ginning of cotton, 18 bales averaging 498 pounds were obtained from 12 acres; plowing and leveling plats for the 1940 cotton crop, seeding late tests of grain varieties, pruning date palms, and making concrete tile.

E. G. Noble

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Vol. 42 March 6, 1940 No. 3

U. S. Huntley Field Station, Huntley, Montana

Several light showers of rain and snow during the two weeks ending February 15 amounted to .44 inch precipitation. This moisture, following a long period of drought, was very beneficial to winter grains and to fall plowed fields. Temperatures have generally been above normal during this period as well as during most of the winter, excepting for a short period in January when subzero temperatures prevailed, with a minimum -40° on January 25.

A demonstration fertility train, operated over the Burlington Lines, stopped at Ballantine one day (February 15) and the exhibit was visited by about 300 Project farmers. One car of the exhibit train included crop rotations, emphasizing the value of manure in maintaining yields on irrigated lands. A second car was given over to demonstrations in the use and value of commercial phosphate fertilizers. Material for the rotation exhibit was taken from published results of the rotation experiments at the Scotts Bluff and Huntley stations.

Station visitors included Director Clyde McKee of the Montana State Agricultural Experiment Station, and Mr. Geo. M. Bingham, Irrigation Specialist of the Montana Extension Service.

Daniel Hansen.

[redacted]. Irrigation Branch Station, Prosser, Washington

The total precipitation for February was 3.18 inches, the highest ever recorded for February during the 17 years on record at this Station. This amount is also the highest monthly precipitation for any month except for November 1926 when 3.66 inches was recorded. The 17-year normal precipitation for February at the Prosser station is 0.74 inch.

At the end of February there were 730,000 acre feet of water stored in the reservoirs of the Reclamation Service. The storage capacity of the reservoirs is 1,030,000 acre feet. There are over 80 inches of snow on Snoqualmie Pass of the Cascade Mountains. These figures indicate that floods may occur in case of sudden thaw.

U. S. Irrigation Branch Station, Prosser, Wash.--cont'd.

The acreage allotment for the Utah-Idaho Sugar Company for sugar beets is approximately the same as last year which was 14,000 acres.

Soil sampling by the W.P.A. crew on the rotation plots has been completed. All the samples have been sifted and stored for future analyses.

Station visitors were M. C. Lane and K. E. Gibson of the Wireworm Laboratory of Walla Walla, Washington, and W. J. Reid of Washington, D. C.

Carl A. Larson

U. S. Newlands Field Station, Fallon, Nevada.

February 3 to 17

Continued mild weather has made field work possible. Station work has consisted of pruning the orchard, labeling trees and field plantings, hauling manure, and preparing plots for spring seeding. The canal lining job, being done by CCC enrollees, is now about 80% complete.

The W.P.A. project that has been under way at this station during the past 10 months has come to an end. However, plans are being drawn for another project to be undertaken this summer. The project is to include the reconditioning of two of the cottages at the station, construction of some 600 concrete posts, and some further landscaping. The State office of the W.P.A. has had architects at the station, and plans are at present being drawn.

The State Agricultural Station has a new employee stationed at the station, who is engaged in farm planning work. Several farms are being mapped and a program is being designed to combine good farming practices and livestock enterprises for each cooperator.

Station visitors have included Director Doten of the State Station: F.B.Headley; and Mr. McCloud, superintendent of some of the CCC activities. Mr. McCloud called regarding the continuance of a truck garden for CCC enrollees. This year the plans call for 2-1/2 acres of garden to be operated by CCC boys.

E. W. Knight

U.S.Scotts Bluff Field Station, Mitchell, Nebr.

Precipitation during the first half of February amounted to .22 of an inch. Wind movement and temperatures have been moderate. Minimum temperatures have ranged from 12 to 30°, and the maximum temperatures from 28 to 52°. The wind has blown from the west or north most of the month. Most of the snow has melted in the valley, and a good portion of the moisture has penetrated the soil. This moisture will be of considerable value in facilitating spring preparation of seed beds in view of the fact that the soils were extremely dry at the beginning of the winter.

During the first week in February the Scottsbluff section shipped 50 cars of lambs as compared with 93 cars a year ago. On February 3 an estimated 345,000 lambs were still on feed in the Scottsbluff area, as compared with 325,000 for the same time last year.

Heavy shipments of certified seed and of table stock potatoes are being made. The seed potatoes have been sold in the Southern States, chiefly Louisiana, Alabama, and Texas; and the chief markets for table stock potatoes are Chicago, Kansas City, and St. Louis. Table stock potatoes are selling from 80 to 85¢ and certified seed potatoes $1.20 per hundred. Alfalfa hay is selling for from $8 to $10 per ton.

The two outstanding agricultural events in the valley during this period involved the visit of the Burlington soil fertility exhibit train, and the Union Pacific potato exhibit train. Both trains visited valley towns during the week of February 5 to 10. Large crowds inspected the exhibits in both trains. Over a thousand people visited the potato exhibit train in Gering, and approximately that many went through the soil fertility train in Scottsbluff. Exhibits in the soil fertility train showed the value of crop rotation, the use of farm manure, and green manure; and the proper use and methods of applying commercial fertilizers. An exhibit on the prevention of soil erosion was shown.

The potato exhibit train included exhibits dealing with practically all problems involved in the production and marketing of potatoes, including maintenance of soil fertility, production of certified seed, proper storage of potatoes, insects and diseases of potatoes, and methods of digging, grading, marketing, and shipping. On both trains, the results of the rotation experiments at the Scottsbluff station were used in the preparation of the exhibits dealing with the maintenance of soil fertility.

The principal activities at the station included sorting potatoes, and the routine of caring for the livestock. At the present time 20 cows are being milked daily in the new milking parlor.

Lionel Harris

U.S. Umatilla Field Station, Hermiston, Oregon

The precipitation for February, most of which fell as rain, was the highest of any month of record, totalled 2.70 inches. The 28-year average for February has been .91 inch. No recent reliable reports on snow accumulation on the Umatilla River watershed are available.

The lights turned on the turkey hens on Jan. 6 resulted in an average during Feb. of 18 eggs from the early maturing strain, and 15 from the late strain. The early and late maturing strains under natural conditions averaged less than 2 eggs during the same period with most of the hens not yet starting to lay.

Artichoke varieties were planted in fields C2 and C3. The artichokes, along with corn and grain sorghums, will be used to ascertain the fertilizer value of turkey feathers. Part of the feathers were placed on plowed alfalfa land, and part on land which had previously only grown row crops. Two additional artichoke plats have only plowed alfalfa and row crops as a previous crop. Field F1 was seeded to alfalfa for further experiments on pasturing alfalfa. Sweetclover, Ladino clover, and alfalfa were planted in the plats of F3 which include these crops. Miscellaneous work consisted of cleaning corrals, digging artichokes, and building irrigation structures.

H. K. Dean

U. S. Yuma Field Station, Bard, California

The maximum temperature for the two-week period ending Feb. 29 was 86°; minimum, 32°; and the precipitation totalled .21 inch.

Crop activities on the project have included the shipping of lettuce at the rate of approximately 50 cars a day, with prices averaging about $1.75 per crate, and the movement of grapefruit at about 3 cars per day at only slighly increased prices from those which prevailed earlier in the season. A few cars of carrots are going out from the south Gila Valley, and some express shipments of tomatoes from the Yuma Mesa.

Land for the 1940 cotton crop is being watered in preparation for planting. The 1939 acreage of about 3,800 acres will be increased in 1940 to about 5,000 acres. Of the 12,500 acres of flax in Arizona, 11,000 acres of this is in the Yuma Valley. This crop to date looks very good and higher than normal yields are expected. The alfalfa seed market has been stagnant for the past 2 months and it now appears that there will be several carloads of seed to be carried over until the next crop season.

Mr. Joseph W. Ash reported for clerical duty by detail from the Washington Office on February 19.

E. G. Noble

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Vol. 42 Washington, D. C. March 25, 1940 No. 4

U. S. Belle Fourche Field Station, Newell, South Dakota

Moderate temperatures prevailed quite consistently throughout February. The maximum was 61° on the 29th and the minimum -4° on the 23rd. The mean temperature was 23°, which is two degrees above the average. The precipitation for the month was .39 inch, but was distributed in such small amounts as to be of no material value.

Lamb Feeders' Day was held February 7. A lamb dinner was served at noon to some 200 people. The dinner was followed by a program on which Director I. B. Johnson, State College, Brookings, and State Secretary of Agriculture E. H. Everson were the main speakers.

The lambs sold on the Sioux City market, Monday, February 12, at 9.25 which was the top for the day. The lambs were of good quality and average dressing percentage was 51.3; maximum, 52.3; minimum, 50.2.

There has been no improvement in the prospect for irrigation water for the coming crop season. On March 1 there were only 16,000 acre feet stored. The snowfall at the headwaters of the Redwater and Belle Fourche Rivers is very light.

Station visitors during the month included Director I. B. Johnson; Mr. E. H. Everson, Pierre; A. L. Baker, U. S. Livestock Range Station, Miles City, Montana; Dr. C. H. Fauchs, B. A. E. Pierre; and Lee Cowan, Indian School, Pierre.

Beyer Aune

U. S. Huntley Field Station, Huntley, Montana

Occasional light showers, amounting to a total of .17 inch, occurred during the period ending February 29, and brought the total for the month to .61 inch, which is slightly above normal. Reported heavier snowfall in the mountains will increase the amount of moisture stored for irrigation, although in the Yellowstone watershed the amount is still less than normal.

Most of the lambs on feed in this area have gone to market with late shipments bringing advanced prices up to $6.75 per cwt. Fat cattle have also held up well in price and local feeders

U. S. Huntley Field Station, Huntley, Mont., cont'd

generally have realized a fairly good profit from their winter feeding enterprises.

Station activities included repairing of machinery and equipment and the routine care of livestock.

Dr. R. T. Clark, Head of the Animal Husbandry Department of the Montana State Experiment Station, was a station visitor February 17.

Daniel Hansen

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

February 16 - March 15

Precipitation during the last half of February amounted to .09 inch. Total precipitation for the month amounted to .31 inch as compared with a 31-year mean (1910-1940) of .20 inch. Wind movement has been approximately normal, and temperatures moderate.

Farmers have begun hauling manure from their corrals to the fields where it will eventually be spread and plowed under. Most manure in the North Platte Valley is applied to land which is to be planted to sugar beets, and is usually applied at the rate of from 10 to 12 tons per acre.

Precipitation for the first half of March amounted to .25 inch. Temperatures and wind movement have been normal.

Some of the 1939 potato crop still remains unsold, but it is now moving quite rapidly because of the fact that farmers are anxious to commence spring preparation of seed beds as soon as weather permits. The Nebraska Certified Seed Potato Growers Association represents the principal source of the basic seed supply for the Association, and the principal source of the basic seed supply for the North Platte Valley. Most farmers plant certified seed, or tubers one year or perhaps two or three years removed from certification. A few growers each year plant foundation seed stock which is the best seed potatoes obtainable on a large scale, from the standpoint of freedom of diseases. Owing to the fact that a large crop of certified seed potatoes was produced in the valley last year, a fairly abundant supply of first class seed is available this year. Producers of certified seed potatoes shipped the No. 1 stock South, and saved the No. 2's, which from the standpoint of freedom from disease is as good as the No. 1's for local use. During the past two weeks the market on both table and seed potatoes has strengthened. Growers of foundation seed stock are holding their potatoes for $2 per cwt. Good quality table stock is bringing from $1.30 to $1.40 per cwt.

U.S.Scotts Bluff Field Station, Mitchell, Nebr. cont'd

Recent reports regarding snow in the watershed of the Pathfinder Dam indicate that the total moisture supply is still short, but that some gains are being made as a result of recent storms.

The second annual meeting of the North Platte Valley Lamb Feeders Association was held Thursday night at Scottsbluff. Principal speakers were Mr. D. H. LaVei of the National Livestock and Meat Board, and Mr. Earl G. Reed of the Burlington Railroad.

Lionel Harris

Irrigation Branch Station, Prosser, Washington

March 1 - 15

During the first part of the month typical March weather prevailed. Frequent frosts occurred and the lowest temperature was 22°. The rainfall amounted to .16 inch.

Wheat was seeded on the rotation plots March 7 and sugar beets were planted March 12. Other station activities included preparing farm fields for wheat and sugar beets, fertilizing experimental plots and seeding early truck crops.

Mr. K. E. Gibson of the Walla Walla Wireworm Laboratory arrived at the station March 11 to conduct the annual soil sifting for wireworms on the rotation plots.

A tract of land in the Emerald District, southwest of Sunnyside, Washington, affected by "black alkali" has been selected for a reclamation experiment in cooperation with the Sunnyside Valley Irrigation District. On March 8, one hundred soil samples were taken from 26 locations on the 40 acre tract.

The Mercer Brothers Sheep Company moved the majority of their ewes and lambs to spring pasture.

Carl A. Larson

U. S. Newlands Field Station, Fallon, Nevada

February 1st - March 2

Water storage in Lahontan Reservoir is within 6,000 acre feet of the amount stored at this date last year. There have been further heavy snows in the mountains since my last report.

Station work has consisted of seeding spring grain, hauling manure, and preparing seed beds. Preparation is being

U. S. Newlands Field Station, Fallon, Nevada, cont'd

made to care for some shrubs for the lawn area. The tract was leveled and seeded to lawn as a part of the recently completed WPA project. The CCC canal lining job has been completed. It adds a great deal to the station's appearance.

Station visitors were Professor V. E. Scott of the Nevada Agricultural Extension Service, Mr. S. Hatch of the Soil Conservation Service, and F. B. Headley of the State Station staff.

March 1-16

Storage in Lahontan Reservoir has reached the same height as last year at this time. The present outlook is such that water is being diverted to Pyramid Lake in order that the reservoir can act as a means of controlling spring flood waters. It is expected that irrigation water will be turned into the canals within the next ten days.

Another WPA project has been applied for after several weeks of plans and estimates on the part of the WPA engineers. The project as submitted, has had our approval and is now on its way to Washington for action. The plans call for reconditioning a small cottage at the station and the construction and installation of some 600 concrete posts replacing wooden ones on the station boundaries. Additional landscaping has been under way, and plantings of about 100 shrubs have been made on the area near the Superintendent's house. This was part of the WPA program of last summer, when it was leveled and planted to grass.

Station visitors were Director Doten and Mr. F. B. Headley.

E. W. Knight

U. S. Yuma Field Station, Bard, Calif.

Normal temperatures have prevailed during the first half of March. Low humidity and drying winds have interfered some with cotton planting which began late in February and will continue to the first of April.

Lettuce, carrots, and grapefruit shipments from the project continue with the end of the shipping season closely approaching. Beef cattle and lamb shipments have started from the feeders which have been pasturing alfalfa during the winter months.

Station work has included the planting of cotton, pruning date palms, clearing land, trimming eucalyptus trees, roguing grain plats, general irrigating, and hoeing.

E. G. Noble

M I S C E L L A N E O U S

Mr. C. S. Scofield is expected to return to Washington April 4.

N E W S L E T T E R
of the
DIVISION OF IRRIGATION AGRICULTURE
Bureau of Plant Industry, United States Department of Agriculture
(Not for publication without the prior consent of the Division)

Vol.42 Washington, D. C. April 15, 1940 No. 5

U. S. Belle Fourche Field Station, Newell, S. Dak.

Normal temperatures prevailed quite consistently throughout March. The maximum temperature was 67° on the 30th, and the minimum was 2° on the 13th. The precipitation for the month was 1.30 inches which is .54 inch more than normal.

Lambing commenced on the first of the month, and to date there are some 138% living lambs from the Hampshires and 132% from the Corriedales.

A WPA project was started on the 11th with 18 men. To date about 800 feet of tile drains have been laid in Field I.

During the month 6 "Better Farming" meetings were sponsored by the Utah-Idaho Sugar Company on the project, and one at Rapid City. Some of the results of sugar beets and alfalfa from the irrigated rotations were summarized and presented at these meetings.

Most of the lambs on feed in this area have gone to market with late shipments bringing over $10 per cwt. Feeders generally have realized a fairly good profit from their feeding operations this season.

Station work included cleaning seed grain, repairing machinery and harness, hauling manure and general care of livestock.

The only station visitor during the month was Dr. F. N. Carlson, B.A.E.Veterinarian from Belle Fourche.

Beyer Aune

U. S. Huntley Field Station, Huntley, Mont.

Total precipitation in March amounted to .37 inch, which is less than half the normal amount for the month. With low precipitation during the winter months also, the amount of stored soil moisture, particularly in the dry lands, is low. Field work in the area started about March 15 and seeding of beets and small grains has been started.

U. S. Huntley Field Station, continued:

The terms of the contract for sugar beets are the same as in 1939, with the amount to be paid for beets to be determined by the selling price of sugar and sugar content of the beets. No minimum initial price is indicated in the contract. The acreage in this factory district will probably exceed that of 1939 when about 23,000 acres were grown.

Station work included plowing and land preparation for seeding in both the dry land and irrigated plots.

Mr. Edmund E. Graham of the Eleventh U. S. Civil Service District Office at Seattle, Wash., visited the station on March 31.

Dan Hansen

U. S. Newlands Field Station, Fallon, Nev. March 16-30

The stored water in Lahontan Reservoir is 4,000 acre feet greater than at this time last year. Some water is still being wasted into Pyramid Lake in order that the danger of spring floods may be averted. At present, water is being released for irrigation, but continued cool weather has resulted in little demand. The principal crops being irrigated are spring sown grains and fall-seeded alfalfa.

Station work has consisted of preparing a seedbed for sugar beets, cultivating alfalfa to destroy weeds, particularly mustard seedlings, repairing irrigation borres, and cleaning ditches. One irrigation has been given the pasture areas.

Dr. Smith, investigating alfalfa wilt, has visited the station. Plans were made covering some of the plot work he will require. Likewise, arrangements were made dealing with the labor requirements and the type of work he will desire to have carried out at this station during his absence in other western states.

The Land Use Planning work of the State Agricultural Station is progressing on this project. Mr. Evans continues to work in the Fallon area. This work has the cooperation of the Newlands station insofar as office space is concerned, and such information as is available regarding crops and livestock. In addition, the Soil Conservation Service is cooperating.

E. W. Knight

Irrigation Branch Station, Prosser, Wash.

The maximum temperature for the latter part of March was 75° and the minimum was 29°. During this period temperatures have not been low enough to damage the fruit crop now in full bloom, nor has orchard heating been resorted to. Precipitation for the latter part of March was 0.43 inch.

Station activities included seeding alfalfa on farm fields, planting sugar beets and hauling manure. The diversion of irrigation water to farm land is expected the first week in April.

Mr. A. L. Kenworthy, Research Assistant, Department of Horticulture of the State College of Washington, has been at the station during the past week pollinating plum varieties. Mr. W. A. Harvey, Weed Specialist of the State College of Washington, visited this station while enroute to his weed plots near Toppenish.

Carl A. Larson

U. S. Scotts Bluff Field Station, Mitchell, Nebr.

Precipitation during the month of March amounted to .65 inch, as compared with a 31-year mean of .56 inch. Temperatures and wind movement have been approximately normal. No severe dust storms have occurred in the Valley thus far this spring. This has been in marked contrast to the past 4 or 5 years when considerable wind erosion has occurred, particularly during the month of March. Fairly good moisture conditions prevail in the soil at this time to a depth of from 1 to 2 feet. This has permitted successful plowing and seedbed preparation.

The principal activities in the Valley during this period have included plowing, hauling manure, preparing seedbeds for grain and sugar beets and planting some grain and sugar beets. Station activities have included hauling manure, plowing, preparing seedbeds, planting sugar beets, and sorting and loading potatoes.

On March 30 a group of farmers and agricultural experts from northern Colorado visited the North Platte Valley to study local methods of storing potatoes. The group visited several potato-storage cellars including the one at the station, and discussed with farmers and experts here various problems in the storage of potatoes. At the station the group was addressed

U. S. Scotts Bluff Field Station, Mitchell, continued

by Mr. A. D. Edgar, Federal Engineer, who has been conducting storage experiments in the North Platte Valley during the past winter.

On March 20 the annual meeting of the Nebraska Potato Improvement Association was held at Gering, Nebraska. Speakers discussed various problems dealing with the production, storage, and marketing of potatoes. Dean W. W. Burr was the principal speaker at the evening session.

Station visitors included Dean Burr, Dr. H. O. Werner and Professor Darling from Alabama.

Lionel Harris

U. S. Yuma Field Station, Bard, Calif.

March 16 - 31

The warmer than normal temperatures which prevailed during the middle of the month gave way to cold and windy weather thereafter. For the month the mean temperatures were about 3° above normal, and 2° warmer than March 1939.

Cotton plantings on the project which were made during the first part of the month all resulted in good stands. Those made later which encountered cold and windy weather may require some replanting. Approximately 75% of the 4,000 acres on the project were planted by April 1. The barley, wheat, and flax crops are beginning to ripen with good yields indicated, with the exception of wheat which is showing much evidence of stem rust. According to reports this rust condition, however, is less severe on the Yuma Project than it is in Imperial Valley.

Carload shipments of crops from the project included the first cutting of alfalfa hay, grapefruit, carrots, and a few remaining cars of lettuce.

Station work included the planting of cotton, cutting alfalfa hay, pruning and removing date palms, cleaning lands, and roguing grain plats.

E. G. Noble

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Vol. 42 Washington, D. C. May 6, 1940 No. 6

U. S. Huntley Field Station, Huntley, Montana

Precipitation during the first two weeks in April amounted to 1.69 inches. This occurred in the form of frequent light showers and kept the surface soil wet so that no field work was possible. No seeding has as yet been possible on station lands, although in other sections of the Valley some grains and sugar beets have been planted on the lighter soils.

Construction of a closed drain in Field K, a cooperative project with the local CCC camp, started on April 2, was continued during most of this period. Excavation of the trench is nearing completion, and it is expected that they will start the laying of the box within a short time.

Station work included repairs to buildings and machinery, the seeding of grass in a lawn grass experiment, and planting of trees and shrubs in the area formerly occupied by the barn lots.

Station visitors included Dr. M. M. Afanasiev and Dr. Carlson of the Montana Experiment Station; Roy C. Jones, Senior Dairy Husbandman, Bureau of Dairy Industry Extension Service of Washington, D. C.; and J. O. Tretsven, Extension Dairy Specialist of Bozeman, Montana.

Daniel Hansen

U. S. Newlands Field Station, Fallon, Nevada

The weather during the 4-week period ending April 27 has been normal, although the temperatures during the middle of the month were a little higher than usual. The lack of precipitation resulted in some demand for irrigation water; however, little irrigation of old alfalfa stands has occurred. Most of the alfalfa on the project is badly infested with aphids, and unless conditions soon change the first crop will be materially below normal.

Station work consisted of manuring the orchard, repairing irrigation structures, preparing corn land for seeding, irrigating, planting several trial plots of different crop varieties, seeding some spring alfalfa, and combating aphids. Dr. Oliver Smith visited the station on April 12 to acquaint himself with alfalfa disease conditions on this project, and to draw up further plans

U. S. Newlands Field Station, Fallon, Nev., continued:

for alfalfa plantings at the station to supplement the wilt-resistant strains now available. Dr. Richard Rosenfels returned to the station to continue his work with White Top investigations. Two new sites for White Top investigations have been surveyed, and several fields infected with alfalfa wilt have been located.

The CCC camps have started the planting of their three-acre truck crop area. In addition, some 2,700 seedling shade trees have been planted in the nursery. These trees are primarily for CCC use in the beautification of parks; however, some will be for the use of the station. Several of the slower growing, hardier varieties of trees were among those planted.

Of late much interest is being shown by farmers and Soil Conservation people in pasture crops. The station grass and clover plots planted last season are receiving much attention. Some twenty-odd plots of various grasses and clovers are now available for inspection by interested parties.

Mr. F. B. Headley of the State station staff, and a representative of a pea growing company visited the station recently. The Company's interest is along the lines of arranging for some 200 acres of peas as a test planting. The necessary acreage has been obtained. Mr. Hatch, Director of the Soil Conservation Service, and party, and Mr. Evans of the Farm Planning Division of the State Station visited the station.

E. W. Knight

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

Precipitation during April amounted to 2.57 inches. On April 12 the minimum temperature dropped to zero, which is the lowest minimum temperature recorded this late in the season during the past 30 years. With this exception, temperatures were approximately normal. Wind movement also has been normal. About one inch of rain fell during the last week of the month which promises to be of great value to early seeded crops such as small grains, sugar beets, and alfalfa. Over 80% of the acreage of sugar beets had been planted before the rain occurred, and practically all of the small grain and alfalfa crops were in the ground. Rainfall throughout the Valley during the last week varied from one inch to two and one-half inches. It is believed that the present moisture will be sufficient to germinate and establish good stands of sugar beets and alfalfa. This is an encouraging circumstance, in view of the fact that farmers will not have to draw upon the limited storage water supplies to irrigate these crops for germination.

U. S. Scotts Bluff Field Station, Mitchell, Nebr., continued:

Station activities included plowing, hauling manure, preparing seedbeds for sugar beets, alfalfa, and the small grain, and planting the small grain plots in the irrigated rotation experiments. Activities throughout the Valley have included seeding of small grain, alfalfa, and sugar beets. The planting of sugar beets on the rotation plots was completed on April 22; small grains were planted during the first week in April; and alfalfa during the third week. Messrs. Harris and Swanson attended the annual sheep feeders meeting at Ft. Collins, Colo., on April 18. Messrs. Rogers and Carter visited the Cheyenne Horticultural Field Station on April 25 for the purpose of securing a truckload of Colorado blue spruce and Western yellow pine trees to be used in landscaping the new dairy location.

At the end of March, storage in the Pathfinder, Guernsey, Alcova, and Seminoe Reservoirs on the North Platte River in Wyo. amounted to 201,000 acre feet of water. This represents a shortage of storage water as compared with average conditions at this time of the year. Recent snow surveys in the Watershed of the Pathfinder Dam are not encouraging.

The Chamber of Commerce of Scottsbluff again is sponsoring a soy bean experimental project throughout the Valley. At a meeting held in Scottsbluff recently, farmers who grew several varieties of soy beans last year reported upon the results obtained. On farms where hail did not damage the crop some favorable results were obtained and yields from 25 to 30 bushels per acre were reported. The Chamber of Commerce is furnishing soy bean seed of one or two of the most promising varieties to farmers who are interested. At the Scottsbluff station last year, seven varieties of soy beans were planted on an experimental basis but hail ruined the entire crop.

Station visitors included Professor H. P. Davis, and Mr. Morgan of the University of Nebraska; Mr. Oliver Stevensen of the Otoe Canning Company and Mr. Phil Sheldon, Mr. Jack Elliott, Mr. T. Neighbors, and Mr. H. J. Ottjes. Dr. H. M. Tysdal has been at the station during the past two weeks planting alfalfa and inaugurating his 1940 experimental program at the station. Messrs. C. W. Nibler, M. L. Flack, J. R. Garl, C. J. Novak, T. W. Parry, E. S. Lyons and Charles Franklin were station visitors.

Lionel Harris.

Irrigation Branch Station, Prosser, Washington

The maximum temperature for the first half of April was 73° and the minimum was 31°. The temperatures have not been low enough to injure the fruit crop.

Station activities included seeding alfalfa and manuring farm fields for corn. A new WPA project has been drawn and approved by State officials. This project will replace the present project when it expires. The alkali reclamation plots on the Emerald tract have been prepared for irrigation.

Carl A. Larson.

U. S. Yuma Field Station, Bard, California

The maximum temperature for the period April 1 to 15 was 101°, minimum 42°, and precipitation 1.5 inches. The warmer than normal period during April 10 to 14 was followed by a severe wind storm which has caused some damage to the young cotton plants, maturing flax fields, and to the new set of fruit on citrus trees.

Carload shipments of produce from the project included carrots, grapefruit and alfalfa hay. The rust on wheat continues to be serious, and in some cases the grain will not be harvested. Threshing of wheat and barley in the Yuma Valley has started.

The contract for lining the All American Canal with a clay blanket from Laguna Dam to Pilot Knob is about half completed. The work will be finished about the middle of July.

Mr. V. L. Wildermuth, Senior Entomologist in Charge of the Bureau of Entomology Laboratory at Tempe, Arizona, and Mr. W. C. McDuffie, in Charge of alfalfa weevil investigations at Yuma, visited the station on April 10 to investigate the possibility of insect injury in the older alfalfa fields in this area. While no insects were found to be active at this stage of growth, further investigations are planned during the summer months.

Work on the station has included the cultivating and hoeing of cotton, digging out date palms, hoeing weeds from ditch banks, roguing wheat and barley tests; manuring grass nurseries; and trapping gophers.

E. G. Noble.

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Vol. 42 Washington, D. C. May 21, 1940 No. 7

U. S. Belle Fourche Field Station, Newell, S. Dak.

The mean temperature for April was 3° below normal. The maximum of 76° was recorded on the 14th, and the minimum of 6° on the 11th. The total precipitation for the month was 2.97 inches, which is 1.44 inches above normal. Precipitation was recorded on 18 days during the month, 1.38 inches of which was included on the 27th and 28th. This last rain caused considerable runoff in the Red Water and Belle Fourche watersheds, and the inlet canal was run nearly to capacity. Fifty thousand acre feet are now stored in the Belle Fourche Reservoir.

Owing to frequent rains during the month, field work was much delayed but the ground is in excellent condition at this time for planting. The beet acreage in the district is now signed up to normal (about 10,000 acres). Planting of grains and alfalfa in irrigated rotations was completed, and the ground for the other crops is ready for planting. About 20 acres of dry land were planted the first part of the month to crested wheat grass and brome grass for sheep pasture. Fifty apple trees furnished by the Cheyenne Horticultural Field Station were planted during the month.

Boyer Aune

U. S. Huntley Field Station, Huntley, Montana

Frequent rains during the two weeks ending April 30 brought the total precipitation for the month to 2.27 inches. Temperatures ranged from a minimum of 1° to a maximum of 81°. The rains delayed field work and seeding, and less than 25% of the beet acreage in the area was seeded.

At the station the seeding of grains on the dry land plots was completed and a start was made on seedbed preparation of the irrigated fields.

Work on the drainage project in Field K proceeded rather slowly due to weather conditions and lack of truck equipment, although the trench excavation was completed, the base gravel placed, and about one-fourth of the box laid.

Visitors during the period included Director Clyde McKee and Dr. Don J. Pletsch, Entomologist of the Montana State Experiment Station, and Mr. Ralph D. Mercer, Extension Agronomist, Montana Extension Service.

Daniel Hansen.

U. S. Newlands Field Station, Fallon, Nevada

During the 2 weeks ending May 11 the weather has been about normal. The high temperatures of the last week have finally checked to some extent the aphid infestation. This is the second year of serious aphid injury. Such injury seemingly follows mild winters. Some fields, particularly newly seeded ones, have had part of their stands destroyed. One interesting observation made at the station is the lack of aphid injury on the Ladak variety of alfalfa. Some aphids were observed working on this variety, but apparently had little effect. At the present time Chilean alfalfa is just commencing to grow while the Ladak is several inches in height.

Station work has consisted of one irrigation, planting corn and potatoes, and hoeing weeds. Some additional plantings have been made by the CCC enrollees in their truck garden.

The hog pasturing experiment has been begun with 24 hogs on pasture. The experiment this year will be to determine the most economical amount of the so-called Wisconsin Trio-mixture to be used under local conditions; that is, with alfalfa pasture supplemented with a barley and skim milk ration.

The turkey poults are progressing as well as usual with very few losses occurring.

Station visitors were Director S. B. Doten and F. B. Headley of the State Station staff.

E. W. Knight

Irrigation Branch Station, Prosser, Wash. April 15 to May 15.

The minimum temperatures during the last part of April and the first part of May have been above normal and free from frost. The soft fruit crop is unusually large because of the mild temperatures.

The reservoirs of the Reclamation Service are filled to their rated capacity of 1,040,000 acre feet. The reservoirs are full a month earlier than usual.

Wireworm damage to sugar beets on the rotation plots is particularly severe this year. The stand on Rotation 21 was lost from the first seeding. Reseeding late in the season has not proven very successful.

A fair stand of sugar beets and barley have been obtained on the reclamation plots on the Emerald tract. The sugar beets and barley were seeded between April 19 and 22.

Station activities included planting corn and sweetclover on the crop rotation plots, planting corn on farm fields, thinning sugar beets and hauling manure.

Station visitors were Dean E.C.Johnson, Pullman, and Dr. Youngblood, Washington, D. C.

C. A. Larson

U. S. Umatilla Field Station, Hermiston, Oregon

April was the fifth successive month with precipitation above normal. Since Oct. 1 the excess has been 2.36 inches or 37.5%, and since December 1 it has been 3.77 inches which was 83.5% above the 28-year normal. The snowfall in the mountains of the Umatilla watershed was light during the past winter and contained, as of April 1, only 43% of the water of 1939. Temperatures somewhat above normal have melted most of the snow by this time. The unusually wet ground however has held up the flow in the river. Cold Springs Reservoir filled on April 14 and the feed canal has supplied the water requirement of the project so far. McKay Reservoir has practically filled. The season is somewhat more advanced than usual.

The new seeding of alfalfa in Fields B4 and F3 have made good stands. Sufficient sweetclover volunteered in Field D so that reseeding was not necessary. The grass mixture reseedings in Field F1 made the middle of December have very materially thickened the stands.

The dairy cows were turned on the sweetclover pasture in Field D on April 13. The milk flow increased 24.1% after the cows had been on pasture 5 days.

The Soil Conservation Service replanted missing trees, principally pine and fir, in the cooperative shelter belt west of the station and added some new species of shrubs. In all 21 species are now included in the planting.

An exhibit of the ornamental material, which was in blossom at the time, was made at the Hermiston Garden Club spring show. Each shrub was labeled with the corrmon and technical name. Visitors to the booth made frequent use of the notebooks and pencils.

During April, following the establishment of the visitors' register on the 6th, 41 visitors were recorded.

Harold K. Doan

U. S. Yuma Field Station, Bard, California

Cooler than normal temperatures prevailed during the last half of April. For the month the mean temperature was 2.7° above normal and 1.6° cooler than April 1939. Precipitation for the month amounted to .15 inch.

Weather conditions have been favorable for the spring plantings of cotton and cantaloupes and for the harvesting of wheat, barley, and flax. Cotton thinning on the project is about completed. In some cases perfect stands of the cotton have been injured by Soreshin, Rhizoctonia sp, particularly on some of the rotation plats on the field station. The continuously cropped cotton plat which received barnyard manure shows a loss of stand amounting to approximately 25% and the plants are still dying. The growth of the cotton on this land and some of the

U. S. Yuma Field Station, Bard, Calif. continued:

cotton plants which follow alfalfa are approximately 8 inches high. It seems unusual that plants this large would continue to be killed off by this disease.

The alfalfa weevil quarantine has been modified to permit the shipping of alfalfa hay without fumigation from the Welton and Northern Yuma County areas. The Yuma, north and south Gila, and Bard Valleys are still under quarantine.

Station work included the thinning of cotton, threshing barley and wheat from rotations, cultivating cotton, cutting the second crop of alfalfa hay, digging out date palms, general irrigating and hoeing.

Dr. O. F. Smith, of the Division of Forage Crops, visited the station on April 20.

E. G. Noble

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

Precipitation during the period ending May 15 amounted to .10 inches. Temperatures have been normal, and wind movement has been slightly above normal.

As a result of the favorable rainfall during the latter part of April, sugar beets, small grains, and alfalfa have emerged satisfactorily, and are making fairly good growth. The extreme dry weather during the first half of May has resulted in the formation of relatively heavy crusts over sugar beet and alfalfa plantings. In most instances farmers have been obliged to break the crust above the sugar beet seedlings in order to permit the seedlings to emerge. Small grain crops and alfalfa have been making satisfactory growth. However, additional rain or irrigation water is needed on old alfalfa plantings.

A new project recently inaugurated at the station in cooperation with the Entomology Department of the University of Nebraska, involves research work on the flea beetle insect, with an objective of developing control measures against the damage which this insect annually inflicts upon potato plantings. Dr. H. D. Tate and Mr. Roscoe Hill of the University, have been at the station during the past two weeks establishing an entomological laboratory, and making preliminary preparations for the inauguration of this work. Other station visitors were Mr. Phil Sheldon, C. M. Mathony, John Dittonber; and Mr. J. R. Mason of the Great Western Sugar Company.

A corn hybrid experiment, including 70 experimental hybrids, 10 commercial hybrids, and 3 open pollinated varieties, was planted on the 10 of May at the Scottsbluff station. Of the 70 experimental hybrids, 54 have been planted for observation purposes only. The remainder, together with the commercial hybrids, and open pollinated varieties, were planted in a replicated random block, for detailed study of yield and other characteristics.

Lionel Harris

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Vol. 42 Washington, D. C. June 12, 1940 No. 8

U. S. Belle Fourche Field Station, Newell, S. Dak.

The mean temperature for May was normal. The maximum, 94°, was recorded May 11; and the minimum, 33°, on May 14. The precipitation for the month was only .79 inch, but the average for the four months up to June 1 has been normal.

The ground was in excellent condition as to moisture at the beginning of the month, and in spite of low precipitation, the crops came through the month in good condition. Irrigation water was turned in the canals on the 22nd and small grain and alfalfa were irrigated.

project
The WPA/is in progress and about one-half mile of line fence has been built. This completes the outside line fences for the entire farm. Some cross fences also will be built on this project. The foundation for the adobe house is in and a considerable amount of the adobe brick has been made. The settling tank is practically completed.

Station visitors for the month were: E. W. Hall, Mitchell, South Dakota., Agri. Agent for Chicago & Milwaukee Railroad; Ross Davis, Brookings, South Dakota, State Coordinator, Soil Conservation Service; and Mr. Holzman, Rapid City, South Dakota, Field Representative, Soil Conservation Service.

Boyer Aune

U. S. Huntley Field Station, Huntley, Montana

The total rainfall of 1.01 inches was about one-half the normal precipitation for May. Following the unusually heavy rainfall of April, however, the soil was well supplied with moisture, and good stands of all crops were obtained without irrigation.

Crops on the Huntley Project are in good condition although spring seeding was delayed somewhat due to weather conditions in April. On the project the beet acreage is about the same as in 1939 with a reported total of slightly more than 4,000 acres. The contracted beet acreage for the Billings factory district is about 25,000 acres.

U. S. Huntley Field Station, Huntley, Mont. continued:

Seeding of all crops on the Station was completed during this period. Other field work included construction and cleaning of field irrigation ditches. Construction of the closed drain in Field K was completed on May 25.

Station visitors included Director Clyde McKee, O. W. Monson, L. A. Clark, A. M. Schlehuber, H. E. Morris and M. M. Afanasiev of the Montana State Experiment Station, and Mr. J. R. Dawson of the Bureau of Dairy Industry.

Daniel Hansen

U. S. Newlands Field Station, Fallon, Nevada.

Weather conditions during the two-week period ending May 25 have been normal. The higher temperatures have ended the aphid infestation. However, some of the new seedings on the project have been destroyed, or so thinned that replanting will be necessary. Older alfalfa has been so set back that the first crop yields will be materially less than normal.

Another WPA project for the station has been given final approval. This project will deal with reconditioning one of the station cottages and some minor improvements to other station buildings. The work is scheduled to begin on June 11.

On May 16 about 50 members of the State A.A.A. committee met at the station. During the forenoon the field work and livestock investigations carried on at the station were carefully gone over. Methods of planting, kinds of pasture, carrying capacities, features of reclamation, the station's land leveling practices, irrigation methods, and other subjects were discussed on the ground. Dr. Oliver Smith demonstrated the identification of alfalfa wilt and later gave a short address on the nature of his work in this State. Dr. R. S. Rosenfels addressed the gathering on the object and extent of the White Top control investigations. In addition to these addresses, several of the visting members of the AAA committee were on the program. At noon a picnic lunch was served on the grounds. Following lunch a part of the afternoon was devoted to talks by various individuals attending the meeting.

On May 22, 35 directors of the Farm Bureau organizations from Lyon, Pershing, and Churchill Counties met at the station. This gathering was increased by 16 FFA boys and their instructor from the local high school. The afternoon was spent in acquainting the group with the various investigations the station is conducting including both field and livestock.

E. W. Knight

Irrigation Branch Station, Prosser, Wash. May 15-31.

The weather during the latter part of May has been normal. The total precipitation for the month was .15 inch. On May 26 the temperature dropped to 32° but no crop damage was observed.

Station activities included cultivating and hoeing sugar beets and harrowing corn.

The sugar beets in the Yakima Valley area are making excellent progress this year. The spring moisture was beneficial in obtaining stands. Sugar beets on wireworm infested areas, however, were damaged considerably this year.

Much interest has been shown by farmers in the Yakima Valley in the production of Baby Lima Beans for canning and freezing. During 1939 only 120 acres of lima beans were grown, but this year 700 acres have been contracted. Land for lima beans is now being prepared for this crop.

The planting of hops has shown an increase in the Yakima Valley. There have been several hop yards constructed in the Prosser and Grandview area this year.

Carl A. Larson

U. S. Scotts Bluff Field Station, Mitchell, Nebr. May 16-31.

Precipitation during the month of May amounted to .40 inch, the lowest recorded for 31 years, as compared with a mean of 2.46 inches. In view of the fact that the .40 inch occurred in three widely separated showers, none was of agricultural value. The temperature and the wind movement have been approximately normal. Evaporation during the month totaled 7.23 inches as compared with a 30-year mean of 6.06 inches. The last killing frost this spring occurred on May 1.

On May 29 the total storage of water in the Seminoe, Pathfinder, Alcova, and Guernsey reservoirs amounted to only 329,710 acre feet. As a result of the limited supply of storage water, it is believed now that it will be possible to deliver to farmers under the Government canals in the North Platte Valley only about 5/10 of an acre foot of water, whereas at least 2 acre feet are considered necessary.

Irrigation water was turned in the lateral serving the station on May 22. Irrigation activities consisted of irrigating grain and alfalfa plots on the rotations, windbreak plantings, and lawns, and experimental bean, potato, and corn projects. Other station activities included planting a sorghum variety test, hauling manure, and plowing potato ground. Most of the beets on the rotation plots have been thinned, and are making

U. S. Scotts Bluff Field Station, Mitchell, Nebr. continued:

satisfactory growth at this time. A variety test of tomatoes was planted for Dr. H. O. Werner on May 30. Three Parshall flumes have been constructed in Field K to measure the input and runoff of irrigation water from that field.

Station visitors included Wm. Morrow and T. H. Hankins of the Nebraska Certified Potato Growers Association, Mr. S. H. Hastings of Washington, D. C., Dean W. W. Burr and Dr. G. E. Condra of the University of Nebraska, and Mr. A. C. Maxson of Denver, Colorado.

Lionel Harris

U. S. Umatilla Field Station, Hermiston, Oregon

During the last half of May the temperatures were normal and no precipitation fell. Light frosts occurred on the lower lands of the project when 38° was recorded at the station. A severe wind on the night of May 24 and all day the 25th did some damage to row crops.

Mr. Dana's plantings were completed by May 20, but it was necessary to replant practically all the bean selections due to damage by the corn seed maggot. The maggot has done considerable damage on the project at times past, but this is the first time that poor stands have been secured in the Curly Top plantings. Leafhoppers are prevalent and some tomatoes are showing Curly Top injury at this early date.

Approximately 1,000 turkeys were hatched this season. Part will be used to continue the feather development project, and the balance will be used for feeding experiments. Local turkey growers report very good hatches, but the total number of birds this year will be from 20% to 25% less than last year.

All of the station has been covered with irrigation water at least twice. The flow in the feed canal decreased until a head could not be gotten out during the week of May 20. The "A" canal pump was first used the following week.

As a result of the ornamental exhibit at the Hermiston Garden Show, requests were received and fulfilled for similar exhibits at Walla Walla, Washington, and Pendleton, Oregon.

H. K. Dean.

U. S. Yuma Field Station, Bard, California

The mean temperature for the month of May was 5° above normal, but weather conditions in general were favorable for the growing and harvesting of project crops. Cotton has advanced rapidly with the first flowers in evidence by the end of the month. Present indications are that a good bottom crop will be set. Alfalfa seed fields are in heavy bloom with fair prospects for above normal yields. Cantaloupe shipments from the project started the middle of the month and will continue until after the first of July.

An earthquake was recorded on the 18th which caused some damage to bridges, culverts, and drainage canals in the lower Yuma Valley. Several miles of drainage canals will have to be reconstructed before the system is functioning properly again. Very little damage occurred to buildings and farm structures although some land will have to be re-leveled near Gadston. No damage occurred on the station.

Station work has included the thinning of cotton, putting up the 4th cutting of alfalfa hay, roguing and hoeing grass in alfalfa nurseries, general hoeing and cultivating.

Mr. Hastings visited the station May 13 to 21 to outline the necessary procedure for discontinuing the work of the station on June 30. Other station visitors were Mr. Robert B. Balcom, Bureau of Reclamation, Denver, Colorado; Mr. Raymond R. Garnett, U. S. Engineers Office, Los Angeles, California; Mr. Sam S. Smith, U. S. Bureau of Entomology and Plant Quarantine, Sacramento, California; Mr. A. T. Bartel, Division of Cereal Crops and Diseases, Tucson, Arizona, and Mr. I. A. Briggs, Mr. W. A. Steenbergen, and Mr. R. L. Matlock of the University of Arizona, Tucson, Arizona.

E. G. Noble.

M I S C E L L A N E O U S

Dr. E. C. Auchter, Chief of the Bureau of Plant Industry, has announced the appointment of Dr. O. C. Magistad as Assistant Chief of the Bureau. "Because of Doctor Magistad's wide experience in both plant and soils research in this and other countries," said Doctor Auchter, "he is especially well equipped to assist in the administrative work concerned with plant and soils research." Dr. Magistad has been in charge of the U. S. Regional Salinity Laboratory at Riverside, California, since 1938, and will give special attention to the soils investigations of the Bureau. He will be succeeded by Dr. R. H. Wilker, dean of the College of Agriculture and Director of the Utah Agricultural Experiment Station, at Logan.

Miscellaneous:

Dr. E. C. Auchter, Chief of the Bureau of Plant Industry, announces that Dr. Oswald Schreiner will assume duties on July 1 as advisor to the Chief of the Bureau on soil problems connected with the work of the Bureau. Dr. Auchter points out that Dr. Schreiner's wide contact with soils and fertilizer problems in this and other countries especially fits him to render aid in the many soils problems confronting the Bureau.

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N E W S L E T T E R
of the
DIVISION OF IRRIGATION AGRICULTURE
Bureau of Plant Industry, United States Department of Agriculture
(Not for publication without prior consent of the Division).

Vol. 42 Washington, D. C. July 6, 1940 No. 9

U. S. Newlands Field Station, Fallon, Nevada

Temperatures for the four-week period ending June 22 were normal, with the exception of June 16 when a temperature of 101° was recorded. The all time high of 102° for the month of June was recorded in 1922. Aphids have about disappeared over the project, and first haying operations have started on some of the farms. The first crop will be below normal due to aphid injury.

Station work has consisted of a general irrigation, cultivating, hoeing corn, thinning beets, starting first crop haying, and prospecting for a new well site. Our domestic water supply has become somewhat too saline for use. The irrigation of additional cropped areas has appeared to cause this change. The present well has been in use over 20 years.

The turkey poults have reached the age where they can be placed on alfalfa pasture. The pigs have been turned on alfalfa pasture and are making very satisfactory gains on a ration of skim milk, alfalfa, barley and "Wisconsin Trio-mixture."

On June 4 eight members of the State Farm Planning Board met at the Newlands station. An all-day discussion was held regarding the program to be instigated in the Fallon area. Those present at this meeting were Mr. Durrell Evans of the Farm Planning Office, Mr. Royal Crook and Mr. John Ahern of the local extension office, Mr. Hatch of the Soil Conservation Service, Mr. L. E. Cline of the State Extension Service, and Mr. Howard Mason and Mr. Cruz Venstrom of the State Bureau of Agricultural Economics. Other visitors were Mr. F. B. Headley and Dr. Oliver Smith, in charge of Investigations of Alfalfa Diseases.

The outstanding yield so far for first crop haying has been obtained from a plot of Ladak alfalfa. The recorded weight of hay from this plot was at the rate of 2½ tons per acre. The nearest approach to this production has been a yield of 3,460 pounds from another alfalfa plot. The heavy yield of Ladak may be attributed to the little damage that occurred to this variety from aphids during the early spring.

The new WPA project is under way. The small cottage of the laborer has been raised and concrete foundation poured under it. In addition, that portion of the rear of the house that is to be rebuilt has been torn off and the foundation laid. An additional project covering refencing the entire station area, using concrete posts, has been submitted. It is hoped that the projects may be carried through simultaneously.

E. W. Knight

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

Precipitation for the month of June amounted to .90 inch as compared with a 31-year mean of 2.25 inches. Precipitation for the months of May and June this year amounted to 1.30 inches, as compared with the 31-year mean for these 2 months of 4.71 inches, or a shortage of 3.41 inches for the 2 months during which the maximum precipitation usually occurs at the station. The May and June precipitation this year represents the lowest ever recorded for these 2 months during the 31-year period 1910-1940. No precipitation of agricultural value has been received at the station since June 1.

The supply of storage water for irrigation has not improved. According to recent reports, it will be possible to run water in the Government canal on the north side of the river for a period of approximately 25 more days. The time during which this water will be delivered will be determined by the water users at meetings which will be scheduled in the near future. The 25-day run probably will be divided, and the water delivered during three different periods.

Spring seedings of small grain, alfalfa, and clover which farmers have planned to abandon as a result of the short supply of irrigation water, have begun to show signs of burning, and it appears that the final results with these crops will be very unsatisfactory. Early planted sugar beets and corn have made very satisfactory growth. Field beans have emerged satisfactorily, and are making good growth at this time. The late crop of potatoes has been planted and appears to be emerging satisfactorily. Fields which were irrigated before planting, or where planting was performed on soil well supplied with moisture, stands appear to be very satisfactory. Early potatoes are making good growth, and do not seem to be menaced by the psyllid insects up to this time. Grasshoppers are bad, only in localized areas.

Station activities included thinning beets, planting potatoes, cultivating corn, sorghum and sugar beets, cleaning up weeds, and irrigating grain and sugar beet plots on the rotation plots. This irrigation represents the second for the grain plots, and the first for the sugar beet plots. Dr. H. O. Werner, of the Horticultural Department, visited the station and planted his strains of potatoes which are to be tested for quality and disease resistance. This is the regular breeding experiment which Dr. Werner has been conducting at this station for a number of years.

A WPA project was initiated at the station on June 25. The WPA work will include construction of fences, feed racks, cement floors, and a breeding chute in the new dairy layout; reshingling some of the station buildings, moving and repairing a house to be used as a dormitory; construction of cement irrigation checks; and grading of roads and improvement of landscape.

A group of Iowa Agricultural students under the leadership of Professors C. S. Dorschester and A. B. Caine and Mr. L. A. Hurst, U. S. Department of Agriculture, visited the station the latter part of the month. Other visitors included Mr. J. F. Decker of Alliance,

U. S. Scotts Bluff Field Station, Mitchell, Nebraska, continued:

Dr. H. M. Tysdal of Lincoln, Mr. Louis Knoflicek of the Department of Horticulture, University of Nebraska, and Messrs. Arden Sherf, John Dean, Lawrence Brough, and Warren Gobleman, graduate students who will be stationed here for the summer.

Lionel Harris

U. S. Huntley Field Station, Huntley, Montana

June 1 - 15

Favorable weather conditions prevailed during this period, and crops in the area are generally in good condition. Beet thinning on the project is well under way with prospects good for full stands and good early growth. Dry land and range conditions are reported to be excellent in most sections of the State.

Station work included irrigation of alfalfa and beets, thinning of beets and cultivation of row crops, and harvest of first cutting alfalfa.

Station visitors included D. A. Spencer, Bureau of Animal Industry, and J. W. Christie, Bureau of Markets, Washington, D. C.; E. M. Pohle of the Sheep Experiment Station, Dubois, Idaho, and Drs. M. M. Afansiev, W. Carlson and D. J. Pletsch of the Montana State Experiment Station.

Daniel Hansen

Irrigation Branch Station, Prosser, Washington

June 1 - 15

The maximum temperature for the first part of June was 97° and the minimum was 36°. The precipitation amounted to 0.19 inch.

Station activities included harvesting cherries, planting potatoes and cutting hay. The potatoes on the crop rotation plots were planted June 15. Mr. A. L. Kenworthy, Research Assistant in Horticulture, returned to the station the first part of June from Pullman, Washington, to continue his work in horticulture. Mr. Norton Wilson Entomologist in the Extension Service, arrived at the station to continue investigations on corn ear worm.

The cherry crop in the Yakima Valley is very large this year and the price is above normal. The cash prices paid to farmers range from 4-1/2 cents for Royal Anns to 6 cents for Bings and Lamberts. The price range will be higher for cherries marketed by cooperative associations.

Station visitors: Dr. S. C. Vandecaveye, State College of Washington, Pullman; Mr. D. E. Stephens, Principal Agronomist, Soil Conservation Service, Washington, D. C.; Dr. O. F. Smith, Associate

Irrigation Branch Station, Prosser, Wash., continued:

Pathologist, Reno, Nevada; Mr. G. A. Mitchell, Superintendent, Pendleton Field Station, Pendleton, Oregon; Dr. J. G. Dickson, Professor of Plant Pathology, Madison, Wisconsin; Mr. W. J. Virgin, Associate Plant Pathologist, University of Idaho, Moscow, Idaho; and Mr. O. R. Mathews, Senior Agronomist, Division of Dry Land Agriculture, Washington, D. C.

Carl A. Larson

U. S. Belle Fourche Field Station, Newell, South Dakota

Total precipitation for June was 4.90 inches which is 2.38 inches greater than the 32-year average for June. This total was received in two storm periods; 2.68 inches being recorded June 2-5, with 2.46 inches occurring on June 2 and 3; and 2.22 inches being recorded in the heavy storm on June 22. In the latter storm 1.30 inches were received in about half an hour accompanied by severe hail, and .92 inch was received in a heavy rain during the night. Excessive run-off occurred. Very high wind accompanied the hail. The total precipitation for the year to date is 10.74 inches as compared with the average of 8.45 inches for the six-month period.

The harvesting of the first cutting of alfalfa was completed the 22nd, just before the hail storm. The maximum yield was 2.01 tons per acre, second-year alfalfa; and the minimum was .38 ton per acre, first-year seeded with nurse crop. The average was 1.24 tons per acre.

The water supply in the Belle Fourche Dam was materially improved during the month and with careful management will probably be sufficient to finish most of the crops.

Station visitors during the month were as follows:

Damon A. Spencer, Bureau of Animal Industry, Washington, D. C.
N. P. Larson, South Dakota Experiment Sta., Brookings, S. D.
Clara M. Sutter, Monona, Ia. Poultry Field Editor "The Farmer"
Nora M. Hott, Brookings, S. D., State Leader Home Demonstration Work.
E. J. George, Mandan, North Dakota, Shelter Belt Work.
H. M. Jones, Brookings, S. D. State Leader 4-H Club work.
James K. McGibney, Sturgis, S. D. County Agent.
Amanda Larsen, Brookings, S. D. 4-H Clubs
Mrs. Tyrus Thompson, Brookings, S. D. 4-H Clubs
G. H. Stringfield, Wooster, Ohio, Agronomist.
Robt. B. Balcom, Denver, Colo. Plant Control Supervisor, Bur. of Reclamation
Percy Heinzen, Rapid City, S. D. Assistant County Agent
Raymond F. Lund, Rapid City, S. D. Co. Agent & Project Supervisor.

Beyer Aune.

M I S C E L L A N E O U S

In a Deficiency Bill which passed Congress on June 22, an item was included for the continuation of the Bard (Calif.) Field Station.

Dr. E. C. Auchter, Chief of the Bureau of Plant Industry, has announced the appointment of Dr. D. M. Crooks as Head of the Division of Drug & Related Plants effective July 1.

Dr. Crooks is at present Head of the Department of Botany of the University of Arizona and Botanist of the Arizona Agricultural Experiment Station. In addition to research with other crops, Dr. Crooks has been interested in and has given considerable attention to investigations dealing with drug and related plants in the Southwest.

Dr. Crooks received a B.S. degree in biology from Ball Teachers College, Muncie, Indiana, and the M.S. and Ph.D. degrees in Botany from the University of Chicago. He has taught and conducted research at various institutions.

In view of the renewed interest in drug and medicinal plants and the desirability of having as many of these crops grown in the Western Hemisphere as possible, Dr. Auchter states that the Bureau is especially fortunate in having Dr. Crooks become associated with the work in this field in which he has already made important contributions.

For the attention of field men:

"The following memorandum, dated June 11, has been received from Mr. Morse Salisbury, Acting Director of Information of the Department:

"'Carbon copies of articles for outside publication which come to this office tear easily and are difficult to read. For this reason we request your bureau to begin to use as soon as possible for the first carbon copy a yellow sulphite paper - GPO stock 290 - * * * and send this first carbon to the Office of Information.'

Will you kindly bring this to the attention of your staff, requesting that in the future this type of paper be used for carbon copies of manuscripts sent to this office for the Office of Information."

Signed: P. V. Cardon, Acting Chief of Bureau.

Mr. Scofield plans to leave Washington on July 7 for a trip to Pecos and El Paso Texas, and Denver, Colorado.

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Bureau of Plant Industry, United States Department of Agriculture
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Vol. 42 Washington, D. C. August 7, 1940 No. 10

U. S. Huntley Field Station, Huntley, Montana June 16-July 15

Rainfall during the month of June was 2.6 inches, which is .34 inch above normal. Crop conditions were favorable during the 2 weeks ending June 30, and all crops are in good condition. Thinning of beets was completed. Stands of beets are good in the better rotations and fields, while in some of the short rotations, as well as in the unmanured alfalfa rotations, poor stands resulted from root-rot injury. Hot and dry weather prevailed during the first 2 weeks of July with temperature on several days above 95°, and with a maximum of 101°. Winter grains on dry land should produce good yields while spring-seeded dry land crops show severe damage from recent drouth.

With irrigation requirements high, the delivery of irrigation water has been placed on a rotation basis, although the supply of water has been sufficient to meet demands without any serious damage to crops. A supplementary headgate, at the canal intake, is being installed, and when completed should insure delivery of an adequate supply at all times.

Harvesting of first cutting alfalfa was completed. Yields of hay were fully up to average and the quality good. The potato crop in the area generally is in good condition with no damage reported from psyllids.

Preparations are being made for holding the Annual Huntley Project Picnic at the station on July 28.

Station visitors included Dr. A. L. Strand, President, D. J. Pletsch, Entomologist, and Dr. M. M. Afanasiev of the Montana State Experiment Station; O. R. Mathews and J. T. Sarvis of the Division of Dry Land Agriculture; Beyer Aune and O. Osenbrug of the Belle Fourche Station; Dr. H. E. Brewbaker, Sugar Beet Specialist of the Great Western Sugar Company from Longmont, Colorado; Mr. P. H. McMaster, Manager, R. B. Millice and Chas. R. Johnson, fieldmen of the Great Western Sugar Company at Billings; Harry C. Anderson, William Wallinder and Dan F. O'Niell of the Soil Conservation Service at Glendive, Montana; Robert W. Gjiellen of the Resettlement Administration at Miles City, Montana; and R. B. Balcom of the U. S. Bureau of Reclamation at Denver, Colorado.

Daniel Hansen

U. S. Newlands Field Station, Fallon, Nevada

Normal temperatures and weather conditions were recorded during the two-week period ending July 6. A slight rain on June 29 caught some first crop hay in the shocks; however, little damage was done.

First crop haying has been completed at the station. The average per acre yield for all plots was 3,045 pounds. The highest yield was recorded from a plot of Ladak with a yield of 4,916 pounds per acre. Old plots of other varieties averaged per acre as follows:

Baltic	1,332	Grimm	2,332
Cossack	2,558	Chilean	1,979
Hairy Peruvian	1,842.		

Other work at the station consisted of binding grain, irrigating, cultivating corn, potatoes and sugar beets, and chopping hay.

The work on remodeling the mess house continued with WPA labor. Slow progress is being made, but the improvements should materially add to the convenience of the house as a dwelling. The job is about 15% complete.

A rather heavy set of apricots was made this year. The mature fruit is small, but has a good flavor. Some trees in the orchard have been set back by aphid injuries. Several sprays were given, but the infestation was so heavy that complete control was impossible. Some yellowing of the trees has occurred. It was thought at first that this yellowing was due to aphid injury or chlorosis. However, spray control for aphid and some experiments under way at this time for remedying the chloratic state seem to indicate other trouble.

Station visitors have been F. B. Headley, Dr. Eubanks Carsner and party of the Division of Sugar Plant Investigation, A. J. Reed, Pershing County Agricultural Agent, and Mr. McCloud, a Lovelock sugar beet grower.

E. W. Knight

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

Precipitation during July amounted to 1.12 inches, and was recorded in several small showers. During the period 1911-30, inclusive, maximum temperatures of 100° or above occurred on an average of one day per year. Since 1931 maximum temperatures of 100° or above have been recorded more frequently. Since July 1, 1940, the maximum temperature has been 100° on ten days. The mean temperature for July was 92° and the high 106°. Several small areas throughout the valley benefited from heavier precipitation which amounted in some instances to approximately 1-1/2 inches. Hail occurred in a few small areas. However, no precipitation of value for the valley as a whole has been received.

U. S. Scotts Bluff Field Station, Mitchell, Nebr. continued:

The irrigation water allotment to farmers under the Pathfinder Irrigation District has recently been reduced from .5 to .45 of an acre foot per acre. The reduction was necessary as a result of heavy losses encountered in the earlier deliveries of water. In view of the reduced supply of irrigation water remaining, it has been considered advisable to deliver the balance of the irrigation water in one more run instead of two runs as planned originally. Consequently, the remainder of the water will be delivered between August 1 and 18. Providing no rain is recieved during the last part of August, and if temperatures continue above normal, it is apparent that late plantings of potatoes and sugar beets will suffer materially from lack of moisture. Cultivated crops have been making satisfactory growth, however, during periods of excessive heat potato and sugar beet plants have wilted badly.

As a result of the extreme shortage of irrigation water, a great activity has been in evidence throughout the valley in the construction of irrigation wells. Some wells have been completed, and are now pumping water, and others are being drilled with the hope of securing water for crops late in August and early September, when irrigation water will not be available. Wells are being drilled on the lower as well as on the higher terraces.

Generally speaking, the field beans have emerged satisfactorily, and good stands are in evidence in most fields. The stands on some fields of potatoes are very good, but on others very poor. Apparently, poor stands in some instances have resulted from poor seed or improper handling of cut seed before planting. Psyllids on potatoes are not a serious menace at this time, although flea beetles are becoming quite numerous on early planted potatoes, and consequently threaten damage to the late crop. Grasshoppers are bad only in localized areas, with the greater portion of the valley escaping heavy infestation.

Station activities included cultivating row crops, spraying potatoes for the control of flea beetles, cutting and stacking the second crop of alfalfa hay, and irrigating all crops on the experimental projects. WPA activities have been discontinued until September in order to permit the construction of a 4-H Club building at the County Fair grounds at Mitchell.

Station visitors included Dean W. W. Burr, Mr. Ivan D. Wood, Dr. T.A.Kiesselbach, Mr. John Slatencek, Dr. H.M.Tysdal, and Dr. J.H.Jensen of Lincoln, Nebr.; Mr. H. L. Westover, Dr.G.A.Wiebe, and Mr. R.C.Cooley of Washington, D.C.; Dr. O.F.Smith of Reno, Nev.; Mr. J.W.Carlson of Logan, Utah; Mr. C.O.Grandfield of Manhattan, Kansas; Mr.L.E.Wenger of Hays, Kansas, Mr.R.W.Weihing of Ft. Collins, Colorado, and Messrs. W.K.Smith, E.R.Jones and L.F. Graber of Madison, Wis. Most of these visitors stopped at the station for a conference on alfalfa, with Dr.Tysdal presiding. Prof. H.P.Davis, Dr. Underbjerg, Dr. H.O.Werner, Dr.H.D.Tate of Lincoln, Nebr. and Mr. Herman Jergens of Mitchell, Nebr., and Mr. Charles Hoff of Omaha, Nebr. visited the station also.

Lionel Harris

Irrigation Branch Station, Prosser, Washington

The maximum temperature for the two-week period ending July 15 was 102°. The weather has been unusually dry, the last rain having occurred June 2. The reservoir of the Reclamation Service contained 828,500 acre feet which will be more than ample irrigation water for this season.

Station activities included routine cultivation and irrigation, The wheat grown on the rotation plots was harvested July 11.

The new WPA Research and Experimental Project at the station was started July 1. This project carries an allowance of $19,000. For the main part the WPA workers will assist with crop records and the soil sampling program.

The shipments of produce from the Yakima Valley for the 1940 season far exceed those of 1939. In July 1939 the carload shipments of produce amounted to 816, whereas of July 14 this season the carload shipments amount to 1,436. So far this season 809 carloads of cherries have been shipped as compared to 547 for last season. The price of hogs has increased 1 cent per pound during the first part of July and the top price is now 6.75.

Carl A. Larson

U. S. Umatilla Field Station, Hermiston, Oregon

Weather conditions during June were severe in so far as water requirement of crops was concerned. The tank evaporation was 11.656 inches which was higher than any June evaporation of record, the average being 7.485 inches. Only two Julys had higher evaporation. The precipitation was .05 inch, and the mean temperature 71.5° as compared with 68.3° average.

During the last half of the month the first crop of alfalfa was harvested. Yields in most instances were normal. Corn in the commercial fertilizer rotation field B6 made very rapid growth. The non-resistant strains of beans and tomatoes were badly affected with curly-top; while the selections of beans and some of the South American strains of tomatoes have shown little damage. The pasture plats in Field F1 which are being irrigated at 9- and 12-day intervals are giving considerably higher carrying capacity than previously when irrigated at two-week intervals.

On July 1 a conference of Eastern Oregon County Agents and Assistants was held at the station. The conference was led by C.W. Smith, County Agent leader, and P.M.Brandt, Chief, Division of Animal Industry, Oregon Experiment Station. The time was divided between discussion of station results in the office, and field trips.

Visitors were D.E.Stephens, O.R.Mathews, G.R.Mitchell, W.W. Lawrence, M.M.Oreson and D.D.Hill.

H. K. Dean

U. S. Yuma Field Station, Bard, California

June 16 - July 15

For the 4-week period ending July 15 hotter than normal temperatures prevailed. A maximum of 115° was recorded on July 12. No precipitation was recorded but there were several partly cloudy days resulting in high humidity.

For the month of June the temperatures were about 3° above normal. The accumulating excess in temperatures during the spring and early summer hastened the maturity and condition of all project crops. The cantaloupe shipping ended about July 10 with a very good season recorded for the Yuma, Phoenix and Imperial areas. The harvesting of flax has been completed and the indications are that the yield will be slightly lower than that of last season. Alfalfa seed harvesting is well under way and the early records indicate that the average yield will be about 225 to 250 pounds per acre.

Station work has consisted of harvesting sweet clover and alfalfa seed plats in the rotations and the uniform alfalfa nursery, recording data and collecting seed from the grass nursery; planting corn and the preparation of lands for grain sorghums. Cotton in the rotations has set a very good bottom crop and a few open bolls were observed in some of the plats. Heavy shedding of squares and small bolls is now occurring and there are some indications that insect damage to the bolls will be considerably greater than last season.

Station visitors included Messrs. Gerald Thorne and Merlin W. Allen of the Division of Nematology, Salt Lake City, and Mr. R. E. Blair of the Crop Reporting Division, Sacramento, Calif., Mr. W. J. Early of Washington, D. C., and Mr. Gensler of the Indian Service at Parker, Arizona.

E. G. Noble

U. S. Belle Fourche Field Station, Newell, South Dakota

The total precipitation for the month of July was 2.15 inches which is .17 less than normal. Measurable amounts were recorded on 9 days and the heaviest occurred on July 25 when there was 1.28 inches accompanied by extremely high wind that damaged the crops to some extent. The mean temperatures for the month were about normal. The maximum was 105° on the 23rd and the minimum 53° on the 25th.

All crops recovered fairly well after the hailstorm on June 22 except the wheat and barley. Outside the hailed-out area harvest is just about completed and some threshing done. Good grain yields are reported.

U. S. Belle Fourche Field Station, Newell, South Dakota, cont'd:

On Saturday July 20 the twenty-fifth Annual Farm Picnic was held. Some 1,000 cars were checked in during the day and evening.

Station visitors during the month included Charles T. Hinze, Bismarck, N. Dak., engineer for the Reclamation Service; A.C.Hildreth Cheyenne, Wyoming, superintendent of Horticultural Field Station; W.F. Buchholtz, Brookings S. Dak., pathologist South Dakota Experiment Station; and L. L. Davis, Brookings, S. Dak., head of Horticultural Department of South Dakota Experiment Station.

Beyer Aune

M I S C E L L A N E O U S

The following memorandum was received from Dr. M. A. McCall, Acting Chief of Bureau:

"Congress has provided an emergency appropriation to conduct rubber investigations with a view to the development of rubber production in the Western Hemisphere. This emergency appropriation has been made to the Bureau of Plant Industry for expenditure.

"Dr. E. W. Brandes, Head Pathologist in Charge of our Division of Sugar Plant Investigations, has been placed in charge of the emergency appropriation for rubber investigations. He will continue in charge of the Division of Sugar Plant Investigations.

"The Rubber Investigations Project will be headquartered in Room No. 340-1 West Wing, Administration Building."

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The Nevada Agricultural Experiment Station has issued Bulletin No. 153 entitled "Purebred and Crossbred Pigs, Comparison of Rate of Growth and Economy of Gains," by F. B. Headley. This investigation was conducted at the Newlands Field Station.

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Mr. Scofield returned to Washington on July 29.

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N E W S L E T T E R
of the
DIVISION OF IRRIGATION AGRICULTURE

Bureau of Plant Industry, United States Department of Agriculture
(Not for publication without prior consent of the Division).

Vol. 42 Washington, D. C. Sept. 7, 1940 No. 11

U. S. Huntley Field Station, Huntley, Montana

The weather continued hot and dry during the four weeks ending August 15, with a maximum temperature of 106°, and rainfall of .16 inch. Irrigated crops are generally in good condition and continue to make good growth. However, irrigation requirements were high and with the low water stage in the river, the delivery of water was slightly restricted although there was no acute shortage.

Station activities included the harvest and stacking of second cutting alfalfa, the irrigation of all row crops and hay and the harvest of dry land grains. Favorable yields are reported for irrigated grains. Feed grains, including oats and barley, are selling at 70¢ and 80¢ per cwt., while the farm price of alfalfa is $5 per ton.

The annual Huntley Project picnic was held in the park adjacent to the station on July 28. The attendance was estimated to be over 3,000. Speakers were Dr. A. L. Strand, President of the Montana State College, and Bailey Stortz, Secretary to Senator Burton K. Wheeler. A special entertainment feature of the picnic program was the performance staged by Lew Valentine, better known as Doctor I. Q. "The mental banker" of national radio broadcasting prominence.

Station visitors included H. L. Westover and H. M. Tysdal of the Division of Forage Crops and Diseases; Ralph D. Mercer of Montana Extension Service; Dr. C. E. Leighty and J. M. Stephens, Division of Dry Land Agriculture; Dr. D. J. Pletsch, Dick Foote, Mr. J. A. Nelson, Dr. A. M. Schlehuber, and Dr. M. M. Afanasiev of the Montana Experiment Station; Mr. H. O. Putnam of the Northwest Crop Improvement Association, Minneapolis; and Dr. LeRoy Powers of the Cheyenne, Wyoming, Station.

Daniel Hansen

U. S. Newlands Field Station, Fallon, Nevada

July 14 - August 17

Temperature of 101° on August 11 was the highest recorded during the month of August since 1933. A few days with maximum temperatures hovering around 100° raised the usual query of whether it was the hottest spell on record. The highest recordings during August was 103° in 1908 and 1920. The all-time high was 106° recorded in July 1931. Precipitation has been below normal, however, there is an adequate water supply available to care for all irrigation requirements.

U. S. Newlands Field Station, Fallon, Nevada, continued:

Second crop haying has been completed. The alfalfa throughout the valley was characterized by its rapid blooming and many fields were cut when better than 50% in bloom. Average yields were 3,087 pounds per acre. The first and second crops produced a total of 6,176 pounds per acre. Two-year old Ladak produced 3,752 pounds of second crop; or a total of 8,668 pounds for the two crops. Common alfalfa of the same age produced 5,327 pounds. Grain harvesting is completed with average yields approximating 1,400 pounds per acre. The grain appears to be very clean with a minimum of weed seeds present. Most of the grain plots have been plowed and soil is being prepared for fall seeding of various crops. The highest yield of barley was 2,440 pounds per acre; wheat, 1,896 pounds; and rye, 2,600 pounds.

The turkey feeding experiment is progressing as planned. At the end of 14 weeks the following average weights were recorded: Bronze averaged 8.2 pounds per bird; Blacks, 6.3 pounds; and White Hollands, 4.9 pounds.

The WPA project of remodeling a small cottage is progressing satisfactorily. Several more weeks of work will be required before the job is complete. However, the interior should be completed soon to a stage where the employee and family can move back. The remaining work will be exterior construction, such as porches and roof repair. Also, concrete posts are being made every other day with about 500 to be prepared. Soil samples are being collected from the Y series area for salinity determinations and comparison with a survey undertake in 1930. About 450 samples are being collected.

The area being leveled for Dr. Smith's alfalfa plantings is about ready for irrigating and seeding. Dr. Smith plans to make numerous plantings, using an area of two acres for the work. In addition the station will make some further plantings of alfalfa varieties.

Station visitors were Mr. L. W. Kephart, Division of Cereal Crops and Diseases, Mr. L. H. Mitchell, Bureau of Reclamation; Mr. F. B. Headley of the State station, and Director S. B. Doten.

C. L. Moon

Irrigation Branch Station, Prosser, Washington

July 15 - August 31

The twenty-first annual field day was held at the Irrigation Branch Experiment Station July 17. The attendance was in the neighborhood of 1,000 people. Interest was shown by farmers in all phases of the experimental program.

During the month of August representatives of the Frozen Pack Laboratory of Seattle have been working at the Station Cannery processing fruits and vegetables grown at the station. The repre-

Irrigation Branch Station, Prosser, Washington, continued:

sentative of the Fruit By-product Laboratory, Pullman, Washington, has been carrying on investigations of canning various fruits and vegetables.

Wheat from the crop rotation plots was threshed August 1. The highest yield, 53 bushels, was obtained from rotation 50. The lowest yield, 19.1 bushels, was produced on rotation 22-A, which includes sweet clover and potatoes in the rotation. Rotation 5 is a continuous wheat plot manured each year, producing 36.3 bushels per acre which was an increase of 3.3 bushels over the preceding year. On this same rotation the wireworm population declined from 15 per foot to 6 per foot.

The harvesting of hops in the Yakima Valley was started the latter part of August. It has been estimated that ten to fifteen thousand hop pickers will be required to harvest the hop crop this year.

The price of No. 1 alfalfa hay in the stack has remained steady at six to seven dollars per ton. The top price of choice light steers is $9 per cwt., and good to choice hogs are $6.75 per cwt.

Visitors during the month were Dean E. C. Johnson and Vice-Dean E. V. Ellington from the State College of Washington, Pullman; B. F. Dana, Plant Pathologist, stationed at Corvallis, Oregon, who visited the station to observe the effects of curly-top on vegetable crops.

Carl A. Larson

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

Precipitation during August amounted to 1.25 inches as compared with the 31-year mean of 1.52 inches. Temperatures for August were slightly above normal, the maximum being 104°, and the minimum, 48°. Wind movement was normal. Total evaporation amounted to 7.1 inches, as compared to the 30-year mean of 7 inches.

Irrigation officials found it possible to increase the irrigation water allotment to farmers of the Pathfinder Irrigation District from .45 of an acre foot per acre to .49 of an acre foot during the first two weeks of August. Water was run in the Government canal from August 1 to 22. Cultivated crops which have been irrigated are making very satisfactory growth.

The annual Scottsbluff picnic and field day was held on August 15. The features of the day included a review of the experimental projects under way on the station, and an irrigation demonstration and 4-H Club activities. The irrigation demonstration was conducted by the Engineering Department of the University of Nebraska. Considerable interest was shown by farmers who

U. S. Scotts Bluff Field Station, Mitchell, Nebraska, continued:

observed the demonstration. Four-H Club activities included judging and demonstration contests, style shows, and races and games. Approximately 150 farmers made a tour of the various experimental projects, and a large crowd of farmers' wives observed the 4-H club activities.

A potato tour sponsored by the Nebraska Potato Growers Improvement Association, the Nebraska Certified Potato Growers Association and the Scottsbluff Experiment Station, was held on the 22nd of August. Problems discussed included flea beetles, psyllids, and digging and marketing problems.

On August 24 a sugar beet tour was held for field men, county agents and research workers in the Department of Agriculture, and also, for those connected with the principal sugar companies. The persons attending the tour viewed the results of the experiments being conducted by Mr. Nuckols and Mr. Lyons, and visited the Scottsbluff station to view the irrigated rotation experiments.

Station activities included irrigating crops on the experimental projects for the last time. The crops irrigated included alfalfa, beans, hybrid corn, sorghums, potatoes, and sugar beets. Owing to the short supply of irrigation water, it has been possible to cut considerable grass and clover hay in the University pasture on areas which would be very swampy during normal seasons. This hay is being hauled down to the station to supplement the meager supply produced this year.

Station visitors included Mr. L. E. Gunderson, Mr. L. F. White, Miss Ruth Loner, Drs. R. W. Goss, J. H. Jensen, J. Livingston, H. O. Werner, and H. M. Tysdal of Lincoln, Nebraska; Mr. Marx Koehnke of Alliance, Nebr.,; Dr. John Bushnell, Ohio Experiment Station; Mr. Oliver Stephenson, Scottsbluff, Nebr.,; Drs. A. C. Hildreth, L. C. Newell, and H. M. Benedict of Cheyenne, Wyo.; Dr. O. S. Aamodt and Mr. S. H. Hastings of Washington, D.C.; Mr. W. J. Coad, Mr. Roth, Mr. R. O. Pierce. Mr. L. M. Buckley auditor for the University of Nebraska, made his annual audit of the station books on August 10.

Lionel Harris

M I S C E L L A N E O U S

Mr. S. H. Hastings left Washington on August 25 for a field trip to the Northern Great Plains field stations.

N E W S L E T T E R
of the
DIVISION OF IRRIGATION AGRICULTURE
Bureau of Plant Industry, United States Department of Agriculture
(Not for publication without prior consent of the Division).

Vol. 42 Washington, D. C. Oct. 3, 1940 No. 12

U. S. Belle Fourche Field Station, Newell, South Dakota

The precipitation for August was .95 inch, which is .45 inch below normal. The total precipitation for the year to the end of August is 13.84 inches. The maximum temperature of 98° occurred on August 14, and the minimum of 44° on August 29. The mean temperatures, evaporation and wind velocity were normal.

Threshing of oats in the irrigated rotations was completed. The average yield was 25 bushels; maximum, 45.9 bushels in Rotation 44; minimum, 3 bushels in Rotation 32. The low yields were caused by the hailstorm on June 22. The variety oats were harvested and threshed. These oats were planted at a later date than those in Field A and made a much better recovery. The maximum yield was 64.6 bushels; the minimum, 40.6 bushels. Barley and wheat were a total failure.

On August 26 the Reclamation Commission visited the station. The members are William Peterson, Director of Extension, Utah Agricultural College; William Powers, Soil Scientist, Oregon State College; and B. E. Hayden, Project Superintendent, Klamath Falls, Oregon. The commissioners spent 3 days on the project where they conducted hearings with Directors of the Irrigation Project and the water users.

Station visitors were Director I. B. Johnson, South Dakota Experiment Station, Brookings; James C. Watson, South Dakota Animal Husbandry Department, Brookings; Floyd F. Collins, County Agent, Belle Fourche; Mr. W. H. Farmer, Extension Irrigation, North Dakota Agricultural College, Bismarck; E. E. Green, Chief, Tenant Purchase Sec., F.S.A., Lincoln, Nebr.; Maurice J. Phipps, Railroad Supervisor, Belle Fourche; H. C. Calhoun, Superintendent, Indian School, Pierre; Leo Cowan, Pierre. Mr. S. H. Hastings, Washington, D.C., visited the station on August 29 and 30.

Beyer Aune

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

Precipitation during September amounted to 1.90 inches as compared to the 31-year mean of 1.55 inches. This is the first month since April that precipitation has been above normal. Between these two periods rainfall has been extremely deficient. In view of the fact that irrigation water has not been available since August 23, the September precipitation has been of considerable value to corn, potato and sugar beet crops; also, to new seedings of legumes and grasses. Wind movement has been slightly below normal, and temperatures have been normal. The total evaporation for September has been 5.29 inches as compared with the 30-year mean of 5 inches.

U. S. Scotts Bluff Field Station, Mitchell, Nebr., continued:

Station activities included cutting weeds, plowing, building fences, hoeing and digging potatoes, cleaning potato cellar, silos and garage, cutting sorghum for silage. The W.P.A. work consisted of laying cement floors in dairy, grading roads around dairy building, painting, repairing and laying floors in dormitory building. The corn plots in the irrigated rotations have been cut and shocked. The 3rd cutting of alfalfa has been cut and stacked. Preparations have been made for the inauguration of the potato and sugar beet harvest. Drs. Jensen and Werner have been at the station harvesting tomatoes, beans and potatoes. While harvesting sorghum for silage, one of the station horses dropped dead. Prussic acid poisoning was suspected as the cause of death; however, in view of the fact that 5 other horses ate rather considerable quantities of the sorghum this seems doubtful. Plans are being made to test the sorghum for the presence of prussic acid.

The annual Scottsbluff County fair was held at Mitchell during September 11-14, inclusive. Record-breaking crowds attended. The Experiment Farm, in cooperation with the Entomology Department of the University of Nebraska and the U. S. Department of Agriculture, the Nebraska Certified Potato Growers Association, the Division of Forage Crops, and the Department of Horticulture presented an exhibit at the Fair consisting of charts, maps and various plants presenting information on psyllids, flea beetles, alfalfa diseases, potato diseases, rotation practices at the Experiment Farm and varieties of hybrid corn, sorghums and tomatoes.

Mr. Paul Swanson who has been in charge of the dairy work at the station for the past 4 years accepted a position with the Omar Milling Company of Omaha, Nebraska, and left on the 9th to take over his new position at Elkhorn, Nebraska.

On September 25 a group of farmers, and business men from Ovid, Colorado, visited the station and examined the rotation experiments in detail. A group of field men and sugar beet officials from Fort Collins, Colorado, visited the station on the 23rd for the same purpose.

Mr. Lionel Harris, who has been on leave for several days, returned to the station on the 14th.

Station visitors included Mr. Wm. Morrow and Mr. Marx Koehnke of Alliance; Mr. Tom Sheppard of Mitchell; Mr. H. M. Darling of Fairhope, Alabama; Mr. J. R. Mason, Mr. M. S. Clement and Mr. Jack Maynard of the Great Western Sugar Company; Drs. H. D. Tate and E. T. Frolick.

Lionel Harris

U. S. Huntley Field Station, Huntley, Montana

Weather continued hot and dry during the 4 weeks ending September 15, with a maximum temperature of 100°. The total rainfall since July 1 has amounted to only .44 inch, which is the lowest on record at this station for these months.

Late crops are maturing rapidly and the harvest of beans and third crop alfalfa have been completed with good yields reported. Threshing of small grains is nearly completed, and late crops and stubble have been irrigated.

The first annual picnic of the Mountain States Beet Growers' Association was held in the field station Project park on Aug. 27 with an estimated attendance of 1,200 people. Speakers were Gov. Roy E. Ayers, Director Clyde McKee of the Montana State Experiment Station and Judge Guy C. Derry of the local District Court. The speaking was followed by the usual picnic program of athletic events and dancing.

Station visitors included Director McKee, Dr. R.T. Clark, Dr. A. M. Schlehuber and Dr. D. J. Pletsch of the Montana Experiment Station, Prof. H. E. Morris, Mr. A. H. Post, Dr. M. M. Afanasiev; and Mr. C. S. Llewellyn of the Soil Conservation Service, Billings. Mr. S. H. Hastings of Washington, D. C., visited the station on September 4-6.

Dan Hansen

U. S. Newlands Field Station, Fallon, Nevada

August 18 - September 14

The weather during this period has been normal. There have occurred no rain and no frost. The indications are that normal third crop hay will be harvested.

The yields of silage corn at the station were below those of last year. The average was 15,703 lbs. per acre; the highest yield, 20.828 lbs., and the lowest, 11,650 lbs per acre.

Four ensilage corns were planted in a varietal test; namely, Local Minn.#13, Minn.#13, Minn.hybri #301, and Red Cob Ensilage. The latter averaged the heaviest yields on the basis of 100 foot rows. The yield was 163 pounds. The other yields were as follows: hybrid corn 139 lbs.; Minn.#13, 116 lbs.; Local Minn.#13, 80 lbs.

Station work consisted of irrigating, hoeing weeds, cleaning premises and seeding alfalfa. In conjunction with his alfalfa disease investigations, Dr. Smith has seeded numerous plots (about 2 acres) to 47 strains of alfalfa. In all cases good germination and a good stand resulted. Similar plantings are being made elsewhere in the State, but the larger number of plantings and size of plantings are being made at this station.

U. S. Newlands Field Station, Fallon, Nevada, continued:

Dr. Rosenfels, of the White Top Investigation, has been carrying on some intensive investigations with weed burners, and has been experimenting with competitive crops as a means of combating White Top infestation on canal banks. The chief problem has been that of obtaining satisfactory stands.

The State Fair was held in Fallon the weekend of August 24. All exhibit space was taken with a fair representation of dairy, beef, sheep, hogs and poultry. The crops division had more entries than usual. Likewise, there was an overflow exhibit of arts, etc. The station staff contributed their services as far as practicable.

An order has been placed for 300 feeder lambs and a carload of steers. The lambs should arrive within the next week or 10 days, and the feeder cattle about the middle of October. Some of the feeding work of last year will be repeated in each case with others added. Additional information is needed where corn silage is used as a feed under local conditions. The quality and high protein content of local alfalfa hay effect very different results from those in places farther East where alfalfa hay is used as a roughage.

Station visitors were Otto Schutz, Soil Conservation Service, F. B. Headly, Dr. Oliver Smith, and some officials of the Soil Conservation Service.

E. W. Knight

U. S. Yuma Field Station, Bard, California

August 1 - September 15

Slightly warmer than normal temperatures prevailed during August, with a maximum of 115°. Rainfall continues below normal, with less than 1 inch since January 1st, and it has been nearly 5 months since any precipitation has been recorded locally. During the first two weeks of September, however, four light rains totaling .56 of an inch were recorded.

Cotton picking and ginning started on the project with only the Somerton and Tenth Street gins operating to handle the approximate crop of 3,000 bales from 3,300 acres. One thousand four hundred fifty-nine bales have been picked and ginned to date, compared to 1,597 bales for the same period last season. Yields are normal.

Lettuce plantings on the project will total about 10,000 acres, an increase of about 25% over last year. This increase is caused by the movement of Salt River Valley truck crop growers to this area.

A National Youth Administration project was started on the station on September 9, with 2 clerical employees and 6 outside enrollees.

U. S. Yuma Field Station, Bard, Calif. continued:

An increase in the flax acreage in the Yuma Valley is anticipated. Reports from the Imperial Valley are to the effect that perhaps 100,000 acres may be planted there this fall.

All construction and repair work on the All American Canal has been completed, and the water was turned in the Canal on September 17 to start the priming operation from the Imperial Dam to the East Highline Canal in Imperial Valley. Only a small head was turned in at first and this will be gradully increased to approximately 6,000 second feet. The Coachella Valley branch of the All American Canal is not completed.

Station work consisted of the picking of cotton on the rotations with yields running close to a bale to the acre for the first picking, cultivating corn and grain sorghums, hoeing and roguing grass and alfalfa nurseries, threshing alfalfa seed, pruning trees and ornamentals around the station grounds.

Station visitors were Dr. C. F. Tolman, geologist of Stanford University; Mr. Allan E. Sedgwick, geologist of Los Angeles; Messrs. J. M. Bewick and W. B. St.John of the Anderson Clayton Company of Calexico, California; and Messrs. L. B. Handley and J. R. Bruckart of the Mutual Orange Distributors of Redlands, California.

E. G. Noble.

M I S C E L L A N E O U S

Mr. C. S. Scofield will leave October 6 for a field trip to the Southwest.

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of the
DIVISION OF IRRIGATION AGRICULTURE
Bureau of Plant Industry, United States Department of Agriculture
(Not for publication without prior consent of the Division).

Vol. 42 . Washington, D. C. Nov. 6, 1940 No. 13

U. S. Belle Fourche Field Station, Newell, South Dakota

September

The mean temperature of 68° for September is the highest on record at this station, and is 8° higher than the average. The precipitation for September was .91 which is .4 below normal; however, the total precipitation for the year to October 1 is 1.26 inches above normal.

The work for the month consisted of irrigating alfalfa, sugar beets, potatoes and all plowed grain plats; harvesting alfalfa, corn, soybeans and cutting silage. The alfalfa crop was better than average, particularly the third cutting.

The W.P.A. project was finished during the month. This project included building one mile of woven wire fence, some 2,000 feet of tile drainage, a settling tank, adobe house, cement floor in the old machine shed and replacing the basement floor in a residence.

Beet harvest will be delayed until about October 4 to extend the growing season for the hailed-out beets as much as possible. The indications are that the yields will be above average.

Visitors for the month included S. H. Hastings, Washington, D.C., Jack Maynard, Great Western Sugar Company, Billings, Montana; John H. Martin, Cereal Crops and Diseases, Washington, D.C.; C. T. Cannon, U. & I. Sugar Company, Belle Fourche, South Dakota; and T. S. Ingalls, U. & I. Sugar Company, Salt Lake City, Utah.

October

October was abnormally warm except for the last 4 days of the month. Light to heavy frost occurred on the 6, 14, 28, 30 and 31. Daily maximum temperatures ranged from 51° on the 28th to 81° on the 20th and daily minimum temperatures ranged from 25° on the 28th to 51° on the 1st. The mean temperature for the month was 53°, which is 6° higher than the 32-year mean for October, and the second highest on record. The total precipitation was .60 inch and the average 1.12 inches. The total precipitation for the year to date is 15.35 inches, which is 1.26 inches greater than the 32-year average for the 10-month period.

On October 10, 700 range lambs were placed on feed, divided into 7 lots of 100 lambs each and fed the following rations:

U. S. Belle Fourche Field Station, Newell, South Dakota:

1 - Corn and alfalfa.
2 - Barley and alfalfa.
3 - Barley, pressed beet pulp and alfalfa.
4 - Barley, pressed beet pulp, dried beet tops and alfalfa.
5 - Barley, pressed beet pulp, beet-top silage (put up green) and alfalfa hay.
6 - Barley, pressed beet pulp, beet-top silage (wilted beet tops siloed 2 weeks after topping) and alfalfa hay.
7 - Barley, pressed beet pulp, corn and beet top silage (from green beet tops) and alfalfa hay.

The potatoes in Field A were harvested Oct. 15 to 22. The maximum yield was obtained from Rotation 60a (186.00 bu. per acre), and the minimum from Rotation 26 (70.00 bu. per acre). Some sales have been made at $1 per cwt. for screened and sacked potatoes. Competition is keen due to the fact that potatoes are being trucked in from other districts.

The harvesting of sugar beets was completed during the month. The maximum yield was 15.17 tons per acre in Rotation 21, and the minimum 3.80 tons in Rotation 42. This plat was replanted July 1st. The average yield was 9.84 tons per acre which is about average for the past 10-year period. The hailstorm on June 22 damaged the stand so several plats had to be replanted and these were uniformly low in yield. The Maximum Production plat yielded at the rate of 21.5 tons per acre, and had a sucrose percentage of 17.8% and the purity was 85.5%.

On October 17 a conference in regard to the reorganization of the Irrigation Rotations at Scottsbluff, Huntley and Newell was held at the Station and the following men were in attendance: S. H. Hastings, Division of Irrigation Agriculture, Washington, D. C.; M. D. Weldon, Soil Research, University of Nebraska, Lincoln, Nebr.; C. V. Maddox, Great Western Sugar Company, Denver, Colorado; C. T. Cannon, Utah-Idaho Sugar Company, Belle Fourche, South dakota; Arthur Eskelsen, Utah-Idaho Sugar Company, Belle Fourche, South Dak.; A. H. Post, Montana Experiment Station, Bozeman, Montana; F. C. Youngblutt, U. S. Reclamation Bureau, Newell, South Dakota; W. D. Buchholz, Secretary, Belle Fourche Irrigation District, Newell; Alex Kling, President, Beet Growers Association, Fruitdale, S. Dak.; J. W. Wilson, South Dakota Experiment Station, Brookings, South Dak.; Floyd Collins, County Agent, Butte County, Belle Fourche, S. Dak.; Dan Hansen, U. S. Huntley Field Station, Huntley, Montana; Lionel Harris, U. S. Scotts Bluff Field Station, Mitchell, Nebr.; Albert Osenbrug, U. S. Belle Fourche Field Station, Newell, S. Da.; and Beyer Aune, U. S. Belle Fourche Field Station, Newell, South Dakota.

The general opinion of this meeting was that some changes are justified to bring the rotations more up-to-date to meet existing conditions. The rotations will continue as they are in 1941 and if changes are made will commence with the crop season of 1942.

U. S. Belle Fourche Field Station, Newell, So. Dak. continued:

The 4H Club Lamb Feeding Project was started Oct. 5 with 23 boys in Butte and Lawrence Counties participating. On October 27 the boys and the County Agents, Floyd Collins and Ivan Fluharty, met at the Station to go over this first month's records and general instructions in caring for the lambs. This project was started in Butte County some 6 years ago and has been taken up by counties in the eastern part of the state, and also neighboring states. Some of these boys are now feeding lambs in a creditable commercial way.

Station visitors in addition to those attending the Irrigated Rotations Conference were Ralph E. Ward, Bureau of Agricultural Economics, Lincoln, Nebraska, John R. Justice, Bureau of Agricultural Economics, Lincoln, Nebraska; C. H. Bailey, Minnesota Experiment Station, St. Paul, Minnesota; Barbara Bailey, South Dakota Experiment Station, Brookings, South Dakota; Ivan V. Fluharty, County Agent, Spearfish, South Dakota; David W. Evans, Utah-Idaho Sugar Company, Salt Lake City, Utah; W. O. Dimick, Utah-Idaho Sugar Co. Portland, Oregon; P. G. McGinnis, U. S. Weather Bureau, Huron, So. Dak.; Albert L. Nussbaum, Resettlement Administration, Sundance, Wyoming; A. F. Sorensen, Soil Conservation Service, Ft. Meade, South Dakota; C. A. Hauptman, U. S. Geological Survey, Midwest, Wyoming; and C. Barton Bergstedt, Federal Security Administration, Denver, Colorado.

Beyer Aune

U. S. Newlands Field Station, Fallon, Nevada

September 15 to October 26

The usual fall weather prevailed throughout this period; however, the first fall frost is later than usual. Likewise, the absence of fall rain has enabled us to put up third crop hay for the first time in the last 3 years without it being rained upon sometime during the haying operation. The first rainfall of the fall of 0.70 of an inch occurred on October 25. Snowstorms were reported in the high Sierras west of Fallon.

The W.P.A. work at the station continues with practically all the work of remodeling one dwelling having been completed. There still remain a few screens and small details to be finished. As soon as this project is closed another will be initiated which calls for the construction of some 500 concrete posts. The materials for the posts are on hand. The fence surrounding the station area will be replaced with these posts and a new fence. Also, it is proposed to install a recently constructed sign near the entrance gate to the station area.

The 300 lambs purchased by the State station for winter feeding experiments have been divided into 6 pens of 50 lambs per pen. The object of the experiment is to compare whole and chopped hay, rye and barley as a grain, and to observe the effect of small quantities of corn silage as a supplement feed. The object of the silage will be more as a "conditioner" in order that heavier feeds of grain may be used.

U. S. Newlands Field Station, Fallon, Nevada, continued:

Real progress is being made in establishing a young herd of Holsteins for future experiments. The older cows are being replaced with high producing heifers, among which very little mastitis has occurred. During the past year and a half one heifer has had to be removed from the "mastitis-free" group.

The final crop of hay has been harvested. This year's crop will average less than last year's, which is probably due to the heavy aphid infestation of early spring. The heaviest yielding plot of 5.8 tons per acre was a 2-year old planting of Ladak. The first crop was much heavier than the Common varieties, as aphids did not seem to materially affect it. The second crop was heavy, but the third was light. One characteristic of this alfalfa is its slowness in recovery after each cutting.

The potato experimental plot did not yield as expected. A blight invaded the vines this year. The first appearance was evidenced during the peak of the growing season. Within a few days all vines were infected and had the appearance of fire having gone through the planting. The Bugless variety averaged 328 pounds to the 500 foot row and the Chippawas 387 pounds.

It is planned this year to try semi-scald methods at killing time for the turkeys, and to determine the amount of flesh to carcass on several birds selected from each of the 3 pens. This will involve determining live, dress weight, and pre-cooking weight, with the weight of the bones remaining after eating.

General station work has consisted of a final irrigation, plowing and leveling, and planting fall grain. Some 12 acres of fall seeding of grain has been made. In addition, some manure has been hauled and weeds burned.

On October 3 about 12 University students and Professor Hodgsen visited the station. Field work and livestock studies were explained. A trip was made through the fields and all livestock feeding experiments under way were investigated.

Station visitors in addition the the University students were F. B. Headley, L. E. Cline, Howard Mason of the State station staff, Mr. A. H. Woollacott, Vice-President of the Pulvol Company, and Mr. S. H. Hastings of the Washington office.

E. W. Knight

Irrigation Branch Station, Prosser, Washington

September

The maximum temperature for September was 77.7°. The monthly mean temperature was 63.8° which is 2° above normal. The rainfall amounted to 0.69 of an inch. There were 308,600 acre ft. of water in the reservoirs of the Yakima Project on September 30.

Irrigation Branch Station, Prosser, Wash. continued:

The third cutting of alfalfa hay was made on the rotation plots on Sept. 17. The mean yield of hay from all the plots for this season was 7.20 tons per acre.

Sugar beet harvest began in the Toppenish District the middle of September. Most of the sugar beets harvested this early are hauled by truck direct to the factory at Toppenish.

The Jonathan, Red Rome and Delicious apples have been harvested at the station. The quality of the apples was reduced this year because of the heavy infestation of Codling Moth. The color was poor, principally because the nights were not sufficiently cool.

The baby lima bean harvest was started at the station the middle of September. The local canning company furnished the station with a viner to shell the beans. A representative of the Frozen Pack Laboratory at Seattle is at the station processing different bean varieties.

Mr. S. H. Hastings visited the station Sept. 9 and 10. Mr. E. V. Ellington, Vice-Dean of the College of Agriculture, and Mr. M. R. Lewis, Senior Agr. Eng., S.C.S. of Corvallis, were also here at that time to discuss station problems with Mr. Hastings. Other visitors were Director R. H. Walker, Mr. R. E. Moore and Dr. A. L. Richards of the Regional Salinity Laboratory, Riverside, California. Drs. L. C. Wheating andE. L. Overholser of the State College of Washington at Pullman accompanied Dr. Walker.

October

The weather was mild the first part of October and unseasonably warm during the middle of the month. The maximum temperature was 79° and the minimum 30°. The first killing frost occurred on October 27. The frost-free period for the past season was 154 days as compared to 172 days last year. The precipitation for October was 1.72 inches. The irrigation water was diverted from the station on October 20. There were 300,000 acre feet of water impounded in the reservoirs of the Reclamation Service at the close of the season. At the close of the last season there were more than 400,000 acre feet remaining after irrigation ceased.

Potatoes grown on the Rotation plots were harvested October 11. The highest yield, 262 bushels per acre, was obtained from Rotation 78-A. The top price of U. S. No. 1 potatoes received by growers is $1¼ per ton. This is a relatively low price and it has not fluctuated to any extent during the season. Butterfat is 31 cents per pound.

The Mercer Brothers lambing camp which has been at the station for the last 3 years, has been moved to Mabton, Washington.

Carl A. Larson

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

Precipitation for the month of October amounted to 1.09 inches, as compared to the 31-year mean (1910-40) of .93 inch. Wind movement for the month was normal. Temperatures were slightly above normal. The first fall frost occurred on October 28, with a minimum temperature of 31°, resulting in a frost-free period of 180 days which is the longest ever recorded at the station. The 30-year mean is 137 days, normally occurring on September 28.

Station activities included the 3rd cutting of alfalfa on the irrigated rotation plots, digging sugar beets, siloing beet tops, and harvesting hybrid corn and sorghum varieties. The sugar content of beets has been relatively low during the entire harvest season owing to the abundant fall precipitation which started a new growth in the plants. Apparently the new growth was principally of a vegetative nature which detracted rather than contributed to the favorable development of sugar in the beets. Another factor which is considered responsible in some measure for the low sugar content was the mild fall weather.

The hybrid corn test was harvested and, owing to the unusually long growing season, practically all of the hybrids matured very well. Several of the plantings appear to be definitely superior to the open pollinated type of corn grown in the valley, and at the same time are early enough to be satisfactory in an average season. The principal characteristics which distinguish the hybrids from the open pollinated varieties include superior yield and reduced lodging.

The harvesting of a bumper crop of potatoes in the North Platte Valley has recently been completed, and the bulk of the potatoes are now stored in farm cellars. Because of unusually favorable growing conditions during the time the potato plants were setting and forming tubers, the yield of potatoes was considerably higher than anticipated, particularly in view of the shortage of irrigation water. While cool damp weather contributed to the favorable development of a large supply of tubers, it also left the tubers in a turgid condition at harvest time, so that considerable difficulty was encountered in harvesting potatoes without scorching and skinning them.

Mr. J. E. Murray and Mr. H. Haworth of the Engineering Dept., College of Agriculture, have been at the station during the past week drilling test wells with a view to determining the possibilities of finding a water supply which will permit the pumping of water for irrigation purposes. Approximately two test wells have been sunk each day.

Mr. C. W. Howe, Irrigation Engineer, who will carry on irrigation experiments at the station, reported for duty on October 8

Station visitors included Chancellor C. S. Boucher and Dr. H. O. Werner of the University of Nebraska, Dr. G. E. Condra and Mr. L. E. Gunderson of Lincoln, Mr. F. R. Mullen of Omaha, and Mr. L. A. Weeks of Alliance; Mr. M. B. Quivey and J. R. Mason of Scotts Bluff and Mr. S. H. Hastings of Washington, D. C.

Lionel Harris

U. S. Huntley Field Station, Huntley, Montana

Rainfall during the two weeks ending October 15 amounted to .77 inch. The first fall frost occurred on October 6 when the minimum temperature was 31°. This frost damaged only the most tender garden crops.

Beet harvest which was started on October 1 has been delayed and made somewhat difficult by frequent rains. The yield of beets is reported generally to be better than in 1939, and is estimated to average about 13.75 tons per acre over the entire Billings factory area of 25,000 acres.

Field work included harvest of potatoes and beets, threshing of beans and fall plowing. Yields of potatoes were higher than in any of the past 4 seasons and the crop was of fair quality and free from disease. Yields in the irrigated rotations ranged from a minimum in Rotation 31 of 99.3 bushels to 450.7 bushels in Rotation 61.

Station visitors included Professor H. E. Morris, Drs. M. M. Afanasiev, W. E. Carlson and D. J. Pletsch of the Montana Experiment Station.

Dan Hansen

U. S. Yuma Field Station, Bard, California

Temperatures for September were about 2° above normal. Four light rains were recorded during the month but the total precipitation for the year is still less than 2 inches. The cooler weather prevailing at the end of September and the light rains which followed the plantings have combined to produce excellent stands of lettuce and carrots. Land for flax is being prepared for November planting.

Cotton picking and ginning continues with most of the first picking completed.

A flow of about 600 second feet of water continued in the All-American Canal during the last half of September. This head is expected to reach drop No. 4 near the East High Line Canal in Imperial Valley about October 6.

Station work included the picking of cotton, roguing grain sorghums, removing date palms, repairing ditches, painting inside of office and preparing land for planting fall crops.

Station visitors included Dr. D. M. Crooks of the Division of Drug and Related Plants on September 21, and Mr. S. H. Hastings on September 26 to 29.

E. G. Noble

N E W S L E T T E R
of the
DIVISION OF IRRIGATION AGRICULTURE

Bureau of Plant Industry, United States Department of Agriculture
(Not for publication without prior consent of the Division).

Vol. 42 Washington, D. C. Dec. 10, 1940 No. 14

U. S. Belle Fourche Field Station, Newell, South Dakota

The mean temperature for November was the third lowest on record. The maximum temperature was 68° on the 2nd and the minimum -6° on the 13th. During the cold wave of November 9 to 14, temperatures of zero or lower occurred on 4 consecutive days. Precipitation was distributed in small amounts, ranging from a trace to .27 inch. The total for the month was .66 inch, which is .18 of an inch above the mean.

Owing to favorable fall growing weather conditions, the yields of sugar beets in the hailed area were average, and for the Black Hills district was 12 tons per acre and the sugar content 15.2 percent. The sugar content is about 1-1/2% below normal. The first payment for sugar beets was $4.10 per ton.

No field work was possible after the 9th. The work for the balance of the month consisted of hauling feed and caring for the livestock.

Beyer Aune

U. S. Huntley Field Station, Huntley, Montana

Unfavorable weather conditions for beet harvest and other field work prevailed during most of the period ending November 15. A light snowfall was followed by several days of sub-zero temperature, with a minimum of -17° on November 12. While a large number of growers have completed the harvest, small acreages of beets remain in the field in most sections of the valley.

The initial payment of $4.25 per ton for beets delivered in October was made on November 15. This price was based on sugar content of the beets and current market price for sugar. Additional payments may be made by the Company as the sugar made from the crop is marketed; such additional payments depending upon the selling price of sugar.

Field work for the season on the Station, was completed with the exception of a small amount of plowing.

U. S. Huntley Field Station, Huntley, Montana, continued:

The mean yield of sugar beets for the 1940 season, involving 28 plots in irrigated rotations, was 9.2 tons per acre. The maximum yield of 18.0 tons per acre was harvested from Rotation 40a. The minimum yield of 1.5 tons per acre was from Rotation 42. Potato yields for the season ranged from a maximum yield of 450.7 bushels from Rotation 61 to a minimum of 99 bushels per acre from Rotation 31. The mean yield of potatoes for the 22 plots in the rotations was at the rate of 258.4 bushels per acre. The maximum production experiment returned a near record yield of potatoes or at the rate of 568 bushels per acre with 84 percent classed as marketable.

Visitors included Dr. R. R. Graves of the Bureau of Dairy Industry at Washington, and Robert Yellowtail, Superintendent and Clarence Runyan, Extension Agent, of the Crow Indian Reservation; Mr. W. L. Quayle of the Wyoming Experiment Station at Laramie, and Everett Fraser of the Farm Security Administration at Billings.

The final payment of 50 cents per ton for the 1939 crop of beets was made on October 20 by the Great Western Sugar Company. This makes the total for that year's crop including A.A.A. benefit payments, about $7 per ton.

Dan Hansen

U. S. Newlands Field Station, Fallon, Nevada

October 27 - November 9

The coldest weather of the fall was recorded on the night of November 10 when a temperature of 17° was recorded. However, field work continued with the last crop (sugar beets) being harvested. The beets were planted in a varietal test to demonstrate the use of some of the blight resistant varieties as compared to the old European type. Other field work consisted of hauling manure and repairing irrigation structures.

One period has been completed with the lambs on feed. A little trouble has been experienced in the heavy grain fed groups. This year has proved no exception to the feeding of other years, and feeds of grain exceeding one pound per lamb have resulted in scouring. The pen on corn silage, alfalfa, and grain has been fed a little heavier grain ration and, so far, without scouring. The pen on hay and silage

U. S. Newlands Field Station, Fallon, Nevada, continued:

alone has ceased to make satisfactory gains. For this pen, it is planned to add grain with the hope that the accustomed feed of silage will so condition the lambs that heavier feeds of grain may be used without trouble.

Thirty-six head of beef steers and heifers have been received with an average weight of 465 pounds. Twenty-four of these animals have been placed in individual pens, and at present are on a roughage feed of alfalfa. The remaining 12 have been divided into 2 groups of 6 matched individuals. One pen is receiving hay and corn silage, and the other hay alone. At a later date, all 36 will have a concentrate feed of barley and beet pulp added to their rations.

Nov. 10 -- Nov. 23

The lowest temperature during this period was 10° and was recorded on November 23. Continued cold nights made it rather difficult to pour concrete on preliminary fencing work. Station work consisted of cleaning up premises, hauling manure, disking some farming land and cleaning up weeds.

Part of the turkeys have been marketed. The balance will be killed in about 2 weeks or when they have reached the same age as the first lot.

Visitors during the month were F. B. Headley of the State station staff, L. E. Cline of the Extension Service, Mr. T. R. Brown, County Agricultural Agent from Susanville, California, C. E. Fleming of the State station, and boys of the agricultural classes and their instructor from the local high school.

E. W. Knight

Irrigation Branch Station, Prosser, Washington

November 1 - 16

A cold wave swept over the Yakima Valley the latter part of the 2-week period ending November 16. There was a little snow and hailstorm followed by a temperature of 17°. Some potatoes on Valley farms that had not been dug were damaged.

Corn harvest on the rotation plots is in progress. The sugar beet plots were harvested November 1. The highest yield, 23.4 tons per acre, was obtained from Rotation 72, where the sugar beets were grown on alfalfa sod. Rotation 8,

Irrigation Branch Station, Prosser, Washington, continued:

the continuous unfertilized plot, produced 5.9 tons per acre. Other station activities included the harvesting of Iowa Hybrid 939 seed corn and field corn.

Sugar beet harvest in the Yakima Valley is still in progress. The frozen beets are being hauled to the factory in Toppenish.

November 17-30

The temperatures for November were below normal and the precipitation was above normal. The monthly mean temperature was 5.7° below normal and the precipitation was 0.57 of an inch above normal. The total precipitation for the calendar year thus far is 10.83 inches which is only 0.14 of an inch less than the highest amount recorded in any 12-month period on record at this station.

The station has made arrangements to feed cattle this winter instead of sheep. The feeder cattle have not arrived at the station at this writing but are expected soon.

The W.P.A. Project workers have started a root sampling program in the apple orchard. A similar project was conducted last winter.

The sugar content of beets in the Yakima Valley was 15.2 percent this year, which is lower than last year. The sugar content in beets grown on the rotation plots also was lower than last year.

The top price to the growers for U.S.No. 1 potatoes is $16 per ton and sacks furnished. The price of choice steers is $9. Onions are bringing the growers $30 per ton and Rutabagas are being sold at $26 per ton.

Carl A. Larson

U. S. Scotts Bluff Field Station, Mitchell, Nebraska

Precipitation during the month of November amounted to .30 inch, as compared with a 31-year mean of .32 inch. Temperatures have been below normal, and wind movement approximately normal. We have had one of the coldest periods on record for the first half of November; for 5 days the minimum temperature ranged from 5° to 12° below zero.

U. S. Scotts Bluff Field Station, Mitchell, Nebraska:

Station activities included harvesting sugar beets, hybrid corn, and sugar beet tops. The harvesting of sugar beets on the station was completed on November 2. Preliminary figures indicate that only fair yields were obtained, and that the sugar content was lower than usual. W.P.A. activities included the construction of panels, feed bunks, and board fence for the lamb-feeding corral. Also, water lines have been laid through the corrals, and to the dairy pastures.

The annual meeting of the Nebraska Non-Stock Cooperative Beet Growers Association was held Friday night, November 29, at Scottsbluff. Mr. Charles E. Franklin of McGrew, Nebraska, was re-elected President. The first payment for sugar beets was received by growers during this month. The average price paid per ton amounted to approximately $3.75. The sugar beets produced on the station contained 13.7% sugar, and brought an average of $3.41 per ton.

One of the principal activities involved the sinking of 13 test wells on the station in order to determine the possibilities of securing an underground water supply sufficient to permit pumping for irrigation purposes. A log of the strata of each well has been obtained. The depth of water-bearing gravel varied considerably. Preliminary examination of the data indicate that the best prospects for a well are found on the west border of the station which is the lowest point with respect to surface elevation.

Lionel Harris